

**SERVANTS OF INDIA SOCIETY'S LIBRARY
PUNE 411 004.**

CN
AcN 13856

Date of release for loan

This book should be returned on or before the last date stamped below.

An overdue charge of 25 paise will be levied for each day the book is kept beyond this date.

21 MAR 1986

Dhananjayrao Gadgil Library



GIPE-PUNE-013856



INDIAN CENTRAL JUTE COMMITTEE

Report on the MARKETING & TRANSPORT OF JUTE IN INDIA

FIRST REPORT

Published by the Secretary,
Indian Central Jute Committee, Calcutta
1940

Price—Rs. 1-8-0 or 2s. 6d.

9(1741):510j41-2

H0
13856

Printed by P. Ghosh at the
Commercial Gazette Press,
6, Parsi Bagan Lane, Calcutta.

PREFACE

The Enquiry into the Marketing and Transport of Jute was one of the earliest investigations undertaken by the Indian Central Jute Committee. At the first meeting of the Committee held on the 10th of February, 1937, the scope of the proposed Enquiry was indicated in general terms; but it was laid down at the meeting of the committee held in February, 1939, that it should be divided into two parts, viz:—(1) the Marketing and Transport of Raw Jute and (2) the Utilization of Jute in India, and the Marketing of Manufactured Products. The present Report—described in the title page as the First Report—embodies the results of the first part of the Enquiry. The preparation of the Second Report has been recently taken in hand; and, according to the schedule to which the Marketing staff of the Committee are now working it is likely to be published before the current year is out.

The Table of Contents will show at a glance the amount of ground that the First Report has endeavoured to cover. Starting with a concise, but, it is to be hoped, complete description of the present system of crop-forecasting, the Report proceeds to examine at length the various stages through which the fibre passes from the grower to the manufacturer or shipper, as well as the details of the marketing organization and the methods of buying and selling that are followed at all these stages. While valuable assistance was received from such published material as exists on this subject, and in particular from the Reports of the Bengal Jute Enquiry Committees of 1934 and 1939, much the greater proportion of the information contained in this Report was based on the facts and statistics collected by the Committee's four Marketing Officers in course of their extensive tours all over the jute growing areas in 1938 and 1939. During this period they interrogated nearly 5700 cultivators and over 1100 *beparis*, *araldars*, *balers*, influential *zamindars* and Government officials, spread over 1500 villages and 168 primary markets and baling centres. These figures will give an indication of the efforts that have been made to obtain first hand information on some aspects of the trade in raw jute, in which, notwithstanding the recent striking growth of public interest in the jute growing provinces of India, adequate and precise knowledge has been hitherto singularly lacking. From the very beginning, one of the objects underlying the investigation of conditions

relating to the marketing and transport of jute has been the preparation of a comprehensive and authentic record of authoritative information on this subject. To what extent the present Report has attained this object it will be for its readers to judge.

Apart from purely descriptive matter, which covers much new ground in several important directions, attempts have been made to add precision to many of the findings contained in the Report by quantitative estimates on a number of subjects, which, for lack of reliable data, have hitherto lent themselves only to qualitative analysis. For instance, in regard to the problems connected with illegal deductions and allowances and the spread between village and Calcutta prices, the quantitative investigations undertaken in this Report will, it is hoped, be a positive aid to clear and accurate thinking on these subjects. Such researches on these and similar other points have not been easy to undertake. As the estimates have had to be based generally on the results of sample surveys, it is not to be expected that the figures set out in this Report will exactly fit in with the conditions prevailing in every part of the jute growing areas. The best claim that can be made for the estimates given in this Report is that they are broadly in accord with the law of averages, and that the deviations from them will not be found to be either widely dispersed or very asymmetrically distributed. In regard to other matters in the Report on which statistics already exist, considerable difficulty was often experienced owing to the discrepancies found between official and trade figures. Attempts have been made to reconcile them as far as possible, and, in rare instances it has been considered desirable to use the figures obtained from the Enquiry in preference to the generally accepted trade or official statistics. It is needless to add that this course has been followed only in those exceptional cases where the unreliability of trade or official statistics was palpably demonstrable.

There is another matter to which a brief reference is needed. Not only was the collection of the relevant information and statistics completed long before the coming of the present war, but the drafting of the Report itself had been already well-advanced when the war broke out. Consequently, it may *prima facie* appear that the information collected in this Report and the conclusion that they indicate may require revision in the altered circumstances of the present. While such an *a priori* view certainly appears more than plausible, in the event it has been found that very few changes on this account in the drafting of the present Report are called for. It is well to remember that, as yet, the visible effects

of the war on those aspects of the trade in raw jute, which form the subject matter of this Report; have been not so much on the structure of this trade itself as on the economic forces, which underly the processes of trading, and that the changes induced in these forces have hitherto affected mainly the Calcutta end of this trade. Some of the recent measures adopted or proposed to be adopted by the Government of Bengal may, however, affect the trade in raw jute to a much greater extent. But hitherto such action as they have taken has been admittedly of a tentative nature. In any case, it does not entail any important or far-reaching modifications in the findings of the present Report.

For the convenience of the general reader, as well as of those that are unable to devote adequate time and thought to the perusal of the Report, a summary of findings and recommendations has been set out in the concluding chapter of this Report. These will indicate, in a general way, the principal directions in which remedial or ameliorative measures are necessary. The Indian Central Jute Committee do not claim any originality for the views expressed in this Report or for the recommendations that they contain; nor do they pretend to believe that the prescriptions for some of the ills of the trade in raw jute that this Report contains will bring about their immediate cure. They would, however, claim that, in the existing order of economy, the recommendations that they have made constitute the only durable foundation on which a strong distributional structure can be built. It is as a contribution towards that end that the Indian Central Jute Committee undertook the preparation of this Report about three years ago and it is in the hope that it will facilitate the achievement of that object that they now present this Report to the various jute growing provinces, and the trade and business interests concerned.

D. L. MAZUMDAR,

Secretary.

Indian Central Jute Committee.

Calcutta, the 19th August, 1940.

CONTENTS

	PAGE
Introduction	1- 11
A. Historical	1
1. Origin of the plant	1
2. Indigenous jute industry of India	1
3. Development of the jute mill industry	2
B. Evolution of the uses of jute	4
C. Cultivation of jute	5
1. India	5
2. Foreign countries	7
(a) French Indo-China	7
(b) Japan	7
(c) Formosa	8
(d) Manchuko and China	8
(e) Other countries	9
(i) West Africa	9
(ii) Sudan	9
(iii) Egypt	9
(iv) Turkey	9
(v) Iran	10
(vi) Thailand (Siam)	10
(vii) Java	10
(viii) Paraguay	10
(ix) Brazil	10
(x) Mexico	10
Chapter I—Supply	12-47
A. Conditions governing the cultivation	12
B. Acreage	12
1. Total jute area and its distribution	12
(a) Bengal	14
(b) Bihar	15
(c) Assam	15
(d) Orissa	16
(e) Other provinces	16
2. Preparation of acreage estimates	16
3. Correction of estimates	18
(a) Desirability of—	18
(b) Official attempts—	19
(i) Bihar	19
(ii) Orissa	19
(iii) Assam	19
(iv) Bengal	20
(c) Calculated acreage	21
(i) Bihar	23

	PAGE
(ii) Orissa	24
(iii) Assam	26
(iv) Bengal	28
4. Fluctuations and trends	28
C. Varieties	33
1. Description	33
2. Distinguishing features	34
3. Factors of cultivation	35
4. Acreage under each variety	36
D. Yield per acre	37
1. Marketing enquiry figures	37
2. Cost of production enquiry figures	38
3. Crop cutting experiments	39
4. Final forecast figures	39
E. Land retained for seed	42
F. Fibre for village consumption	43
G. Production	44
1. Preparation of outturn estimates	44
2. Calculated production	45
3. Trend of production	46
Chapter II—Preparation for Market	48-67
A. Harvesting	48
1. Season for early and late varieties	48
2. Different stages	48
B. Preparation of fibre	50
1. Shedding of leaves	50
2. Steeping	50
(a) Types of retting water	50
(b) Methods of steeping	52
(c) Time taken in retting	52
3. Stripping and washing—different methods	53
4. Drying and bundling of fibre	55
C. Cost of harvesting and preparation	55
1. General considerations	55
2. System of wages	56
3. Comparative costs	56
D. Season for marketing: Determining factors	59
1. Time of harvesting	59
2. Transport conditions	60
3. Financial position of growers	62
4. Storage accommodation in villages	65
5. Summary	65
Chapter III—Assembling	68-118
A. General	68
B. Description and function of various intermediaries	69
1. General	69
2. Upcountry	69

	PAGE
(a) <i>Farias, paikars and beparis</i>	69
(b) <i>Dalals</i> (brokers)	70
(c) <i>Aratdars</i> (commission agents and merchants)	71
(i) Merchants	71
(ii) Agents of outside buyers	73
(iii) Agents of local buyers	73
(iv) Agents of sellers	73
(d) <i>kutchā balers</i>	74
(i) Merchants or firms of essentially local importance	74
(ii) Large European and Indian baling firms	75
(iii) Representative of jute mills	75
(e) <i>Pucca balers</i>	75
3. Terminal markets—Calcutta	75
(a) <i>Aratdars</i> (commission agents)	76
(b) <i>Dalals</i> (brokers)	76
(c) <i>Pucca balers</i> and mills	77
C. Movement of jute—upcountry	78
1. Proportions sold by growers	78
(a) Communications	79
(b) Finance	79
(c) Quantity available with individual growers	80
(d) Diversity of weights	80
(e) Intermediaries and arbitrary market charges	80
(f) Storage	81
2. Description of markets and methods of transacting business	81
(a) Village markets	81
(b) Primary markets and <i>hats</i>	82
(c) Secondary markets (baling centres)	83
3. Assembling of jute at various points	85
D. Terminal markets—Calcutta	87
1. General	87
2. Loose jute markets	88
(a) Cossipore	88
(b) Shambazar	89
(c) Hatkhola	90
3. Trade associations	90
(a) Cossipore Jute Sellers Association	91
(b) Belgatchia Jute Aratdars Association	91
(c) Hatkhola Banijya Hitaishini Sabha	92
(d) Calcutta Jute Dealers Association	92
(e) Bengal Jute Dealers Association	92
(f) Calcutta Baled Jute Association	93

	PAGE
(g) Jute Balers Association	94
(h) Indian Jute Mills Association	94
4. Futures market	97
(a) Theoretical	97
(b) East India Jute Association Ltd.	98
(c) Calcutta Jute Exchange Ltd.	105
(d) <i>Katni</i>	106
E. Description and incidence of market charges and deductions	106
1. Upcountry	106
(a) Deductions in kind	106
(i) <i>Dhalta</i>	106
(ii) <i>Bachhat</i>	107
(iii) <i>Kabari</i>	107
(iv) <i>Namuna</i>	107
(v) <i>Pasga</i>	107
(b) Cash allowances	107
(i) <i>Zamindars' toll</i>	107
(ii) <i>Aratdari</i>	108
(iii) <i>Dalali</i> or brokerage	108
(iv) <i>Koyali</i>	108
(v) Office expenses	108
(vi) <i>Jachandari</i>	108
(vii) <i>Britti</i>	109
(c) Summary	109
2. Calcutta	110
F. Finance of assembling	112
1. Credit facilities for growers	112
(a) Bengal	112
(b) Bihar	114
(c) Assam	115
(d) Orissa	115
2. Financing of <i>beparis</i> and merchants	115
3. Functions of joint stock banks	116
4. Co-operative organizations	117
(a) Credit societies	117
(b) Sale societies	118
Chapter IV—Handling & Transportation	119-159
A. Description and costs of handling operations	119
1. Villages	119
2. <i>Hats</i> and primary markets	119
(a) Carts	119
(b) Boats	119
3. Secondary markets (<i>baling centres</i>)	120
(a) Unloading and carrying to godowns	120
(b) Weighing	120

	PAGE
(c) Selecting (grading) and baling ..	121
(d) Stacking or piling for storage ..	124
(e) Exporting ..	124
(f) Standing charges ..	126
4. Charges in <i>daisee</i> districts ..	126
5. Terminal markets ..	127
(a) Cossipore ..	127
(b) Hatkhola ..	127
(c) Shambazar ..	128
(d) Mills and presses ..	128
(e) Standing charges of <i>kutchā</i> balers at Calcutta ..	128
6. Summary ..	130
B. Transportation ..	131
1. General ..	131
2. Internal communications ..	132
(a) Country boats ..	133
(b) Bullock carts ..	134
(c) Pack animals ..	135
(d) Headloads ..	136
(e) Summary ..	137
3. Upcountry markets to Calcutta ..	137
(a) Steamers—cargo flats and barges ..	139
(i) Inland steamer companies ..	139
(ii) Freight rates ..	140
(b) Country boats ..	145
(c) Railway transport ..	145
(i) Railway system ..	146
(ii) Railway transshipment points ..	146
(iii) Combined services ..	147
(iv) Railway deliveries ..	148
(v) Railway freight rates ..	149
(d) Motor lorries ..	150
4. Transit insurance ..	151
5. Competition between various means of transport ..	152
(a) Road and railways ..	152
(b) Steamer and railways ..	153
(c) Country boats, steamer and railways ..	154
6. Periodicity of arrivals in Calcutta ..	154
7. Summary ..	155
C. Handling and transportation costs ..	157
Chapter V—Classification, Grading and Standardization ..	160-185
Note on technical terms ..	160
A. General ..	161
B. Classification ..	161
1. Quality characteristics ..	161

	PAGE
(a) <i>White jute</i> (<i>Corchorus capsularis</i>) ..	162
(i) <i>Jat</i> ..	162
(ii) <i>District</i> ..	163
(iii) <i>Northern</i> ..	163
(iv) <i>Western</i> (or Bihar) ..	163
(v) <i>Assam</i> ..	163
(vi) <i>Orissa</i> ..	163
(vii) <i>Dowrah</i> (or <i>Pubal</i>) ..	164
(viii) <i>Jungli</i> ..	164
(b) <i>Tossa jute</i> (<i>Corchorus olitorius</i>) ..	164
(i) <i>Jat</i> ..	164
(ii) <i>District</i> ..	164
(iii) <i>Northern</i> ..	165
(iv) <i>Western</i> (or Bihar) ..	165
(v) <i>Orissa</i> ..	165
(vi) <i>Jungli</i> ..	165
(c) <i>Daisee jute</i> (<i>Corchorus olitorius</i>) ..	165
(i) <i>Jat</i> ..	165
(ii) <i>District</i> ..	165
2. <i>Quality factors</i> ..	166
3. <i>Variations of qualities</i> ..	168
C. <i>Grading</i> ..	169
1. <i>Present practices</i> ..	169
(a) <i>Growers</i> ..	169
(b) <i>Beparis</i> ..	169
(c) <i>Aratdars</i> ..	170
(d) <i>Kutchal balers</i> ..	170
2. <i>Standards of packing</i> ..	171
3. <i>Malpractices</i> ..	172
(a) <i>Watering of jute</i> ..	172
(b) <i>Adulteration of qualities</i> ..	174
4. <i>Method of sale</i> ..	177
(a) <i>Upcountry</i> ..	177
(i) <i>Estimation</i> ..	177
(ii) <i>Assortment</i> ..	177
(b) <i>Calcutta</i> ..	178
(i) <i>Mills' contracts</i> ..	178
(ii) <i>Pucca balers' contracts</i> ..	178
D. <i>Standardization</i> ..	179
1. <i>General</i> ..	179
2. <i>Fixation of standards</i> ..	179
3. <i>Claims and their causes</i> ..	183
(a) <i>Short weight</i> ..	183
(b) <i>Excess moisture</i> ..	184
(c) <i>Quality</i> ..	184
4. <i>Arbitration by Bengal Chamber of Commerce</i> ..	184
Chapter VI— <i>Conservation</i> ..	186-198
A. <i>Condition governing storage</i> ..	186

	PAGE
1. Growers	186
2. <i>Farias and beparis</i>	187
3. <i>Aratdars</i>	187
4. <i>Kutchā balers</i>	188
B. Types of godowns and methods of storage	189
1. Villages	189
2. Primary markets	190
3. Secondary markets (baling centres)	191
4. Terminal markets (Calcutta)	192
(a) <i>Shambazar</i>	192
(b) <i>Hatkhola</i>	192
(c) <i>Cossipore</i>	193
5. Consumers' premises	193
(a) Mills	193
(b) <i>Pucca balers</i>	193
C. Effect of storage on fibre	194
1. General	194
2. Loss in weight	194
3. Deterioration in colour and strength	195
(a) <i>Jat</i>	195
(b) <i>District</i>	196
(c) <i>Dowrah</i>	196
(d) <i>Northern</i>	196
(e) <i>Daisee</i>	197
D. Stocks: Periodicity—Carryover	197
Chapter VII—Prices	199-221
A. General	199
B. Price fixation	200
1. Determining factors	200
(a) Price in relation to quality	200
(b) Price difference for various classes	201
(c) Premium for <i>tossa</i>	203
2. Influence of Calcutta markets on prices upcountry	203
(a) Loose jute markets	203
(b) Jute futures market	204
3. Methods adopted	205
(a) Villages and <i>hats</i>	205
(b) Secondary markets	205
(c) Terminal markets	206
C. Review of loose jute prices	206
D. Prices for old and new crops	209
E. Market intelligence	210
1. General	210
2. Sources of information	212
(a) Daily newspapers	212
(b) Trade publications	212

	PAGE
(c) Government publications	213
(d) Post and telegraph	213
(e) Wireless transmission	214
F. Price spread at various marketing stages	214
1. General	214
2. Method of preparing price structure	215
(a) Markets selected	215
(b) Prices for unassorted and graded jute	215
(c) Expenses involved	215
3. Price structure	216
4. Summary	216
Chapter VIII—Weights	222-228
A. Size and nature of weights	222
B. Standards of weighing	222
1. General	222
2. Local practices	222
3. Weighing on one standard and payment on another	223
C. Types of scale employed	226
D. Methods of weighing	227
E. Verification of weights	228
Chapter IX—Seeds	229-238
A. General	229
B. Source of supply	229
1. Types of seed	229
2. Seed production	230
(a) By growers	230
(b) By planters	230
(c) Government farms	230
(d) Production rate	230
3. Distribution	231
C. Quantitative requirements	232
1. Sowing rate	232
2. Seed required for the total jute area	233
D. Control and supply of improve seed	234
1. Evolution of improved varieties	234
2. Distribution of improved seed	214
3. Area under improved seed	237
E. Summary	237
Chapter X—Utilization and Demand	239-247
A. Utilization	239
1. Exports	239
2. Internal consumption	241
(a) By jute mills	241
(b) In villages	243
B. Demand	243

	PAGE
1. Qualitative requirements	243
(a) Exports	243
(b) Mills in India	244
(c) Villages	244
2. Quantitative requirements	244
(a) Exports	244
(b) Mills in India	245
(c) In villages	246
C. Summary	247
Chapter XI—Summary of Findings & Recommendations ..	248-276

Tables

I Estimated area under jute in British India and States	13
II Estimated area under jute in Bengal ..	14
III Estimated area under jute in Bihar ..	15
IV Estimated area under jute in Assam ..	15
V Estimated area under jute in Orissa ..	16
VI Forecast and calculated estimates of jute acreage	22
VII Forecast and calculated acreage ..	22
VIII Probable area under jute in Bihar ..	23
IX Probable area under jute in Orissa ..	25
X Probable area under jute in Assam ..	28
XI Probable area under jute in Bengal ..	29
XII Stocks, prices and calculated area of jute	31
XIII Upcountry stocks of jute	30
XIV Local names of jute	34
XV Proportions and yields of Capsularis and Olitorius	36
XVI Provincial proportions of the two varieties	37
XVII Enquiry and crop cutting yields per acre	38
XVIII Comparative yields per acre	40
XIX Provincial yields per acre	41
XX Area retained for seed purposes and Fibre retained for domestic use ..	43
XXI Production of jute and arrivals into Calcutta	45
XXII Calculated production of jute ..	46
XXIII Forecast and calculated production of jute	47
XXIV Yield per acre (1927-28 to 1937-38) ..	47
XXV Yield of jute at various stages ..	49
XXVI Approximate time taken in retting ..	53
XXVII Cost of preparation of jute fibre for marketing	58
XXVIII Sale of jute by growers	61

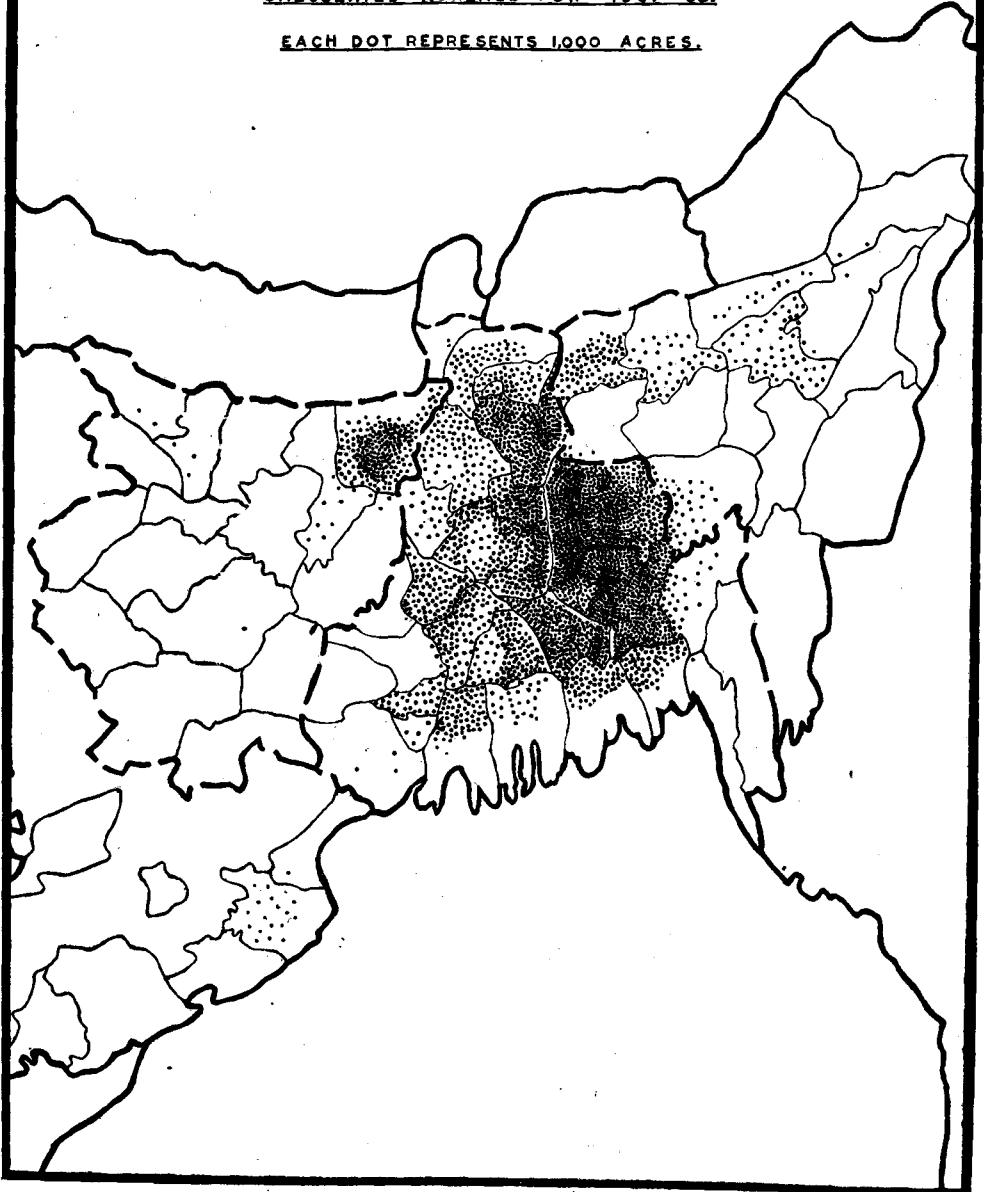
	PAGE
XXIX Extent of indebtedness for jute cultivation	63
XXX Financial condition of agriculturists in Bengal	64
XXXI Proportion of marketable surplus of jute handled by free lance <i>beparis</i>	70
XXXII Various functions of <i>aratdars</i>	72
XXXIII Percentage of marketable surplus of jute sold by growers at various points	78
XXXIV Jute Trade Associations in Calcutta	91
XXXV Frequency of various allowances in secondary markets	109
XXXVI Allowances in secondary markets	110
XXXVII Allowances in Calcutta markets	111
XXXVIII Weights of <i>kutch</i> a bales packed at secondary markets	122
XXXIX Handling expenses at terminal markets	129
XL Cost of transport by pack horses	136
XLI Cost of transport by headloads	136
XLII Arrivals into secondary markets by various means of transport	137
XLIII Original and revised rebates on steamer freights	143
XLIV Net steamer freight rates for loose jute to Calcutta	144
XLV Freight to Calcutta charged by conference Companies	144
XLVI Special freight rates from selected stations to Calcutta	150
XLVII Cost of transport by motor lorries	151
XLVIII Comparative freight rates by railway and water transport	154
XLIX Monthly arrivals of jute in Calcutta	155
L Arrivals of jute in Calcutta by steamer, railway and boats	156
LI Expenses incurred by buyers on the movement of jute	158
LII Different classes and grades of jute	161
LIII Arrivals of jute at Sarisabari	175
LIV Sarisabari and village prices	175
LV Production by individual growers	186
LVI Percentages of grade outturn	189
LVII Reported stocks upcountry	197
LVIII Estimates of stocks upcountry	198
LIX Village prices of representative classes of white jute	202
LX Average price for <i>Jat & District</i> jute	203

	PAGE
LXI Harvest prices of jute	208
LXII Monthly prices of white jute in up- country markets	209
LXIII Price Structure—October 1937	217
LXIV Standard of weights in various markets	224
LXV Systems of weighing and payment in some markets	225
LXVI Growers using various types of seeds	232
LXVII Village or bazar seed required for sowing one acre of land	233
LXVIII Area under improved seed	237
LXIX Distribution of jute	240
LXX Export of raw jute to foreign countries	241
LXXI Purchases and consumption of mills in India	241
LXXII Distribution of looms in India	242
LXXIII Probable consumption of jute by mills in each province	243
Glossary	277-285
Appendices	286-323
A. A Note on Jute Cultivation in the United Provinces	286
B. Cost of Preparation of Fibre for Market	295
C. Sale of Jute by Growers (in percentages)	297
D. A Note on Taxes Levied by the Local Self- governing Bodies	299
E. Percentages of Marketable Surplus of Jute Sold by Growers at Various Points	301
F. Handling Expenses at Secondary Markets	302
G. Cost of Transport by Country Boats	303
H. Cost of Transport by Carts	305
I. Freight Rates to Calcutta by Combined Service	307
J. Jute Contract Approved by the Indian Jute Mills Association	308
K. Production by Individual Growers (1937-38)	320
L. Price Structure—1937	321
M. Export of Raw Jute to Foreign Countries	323
Diagrams	7
Maps	3
Photographs	10

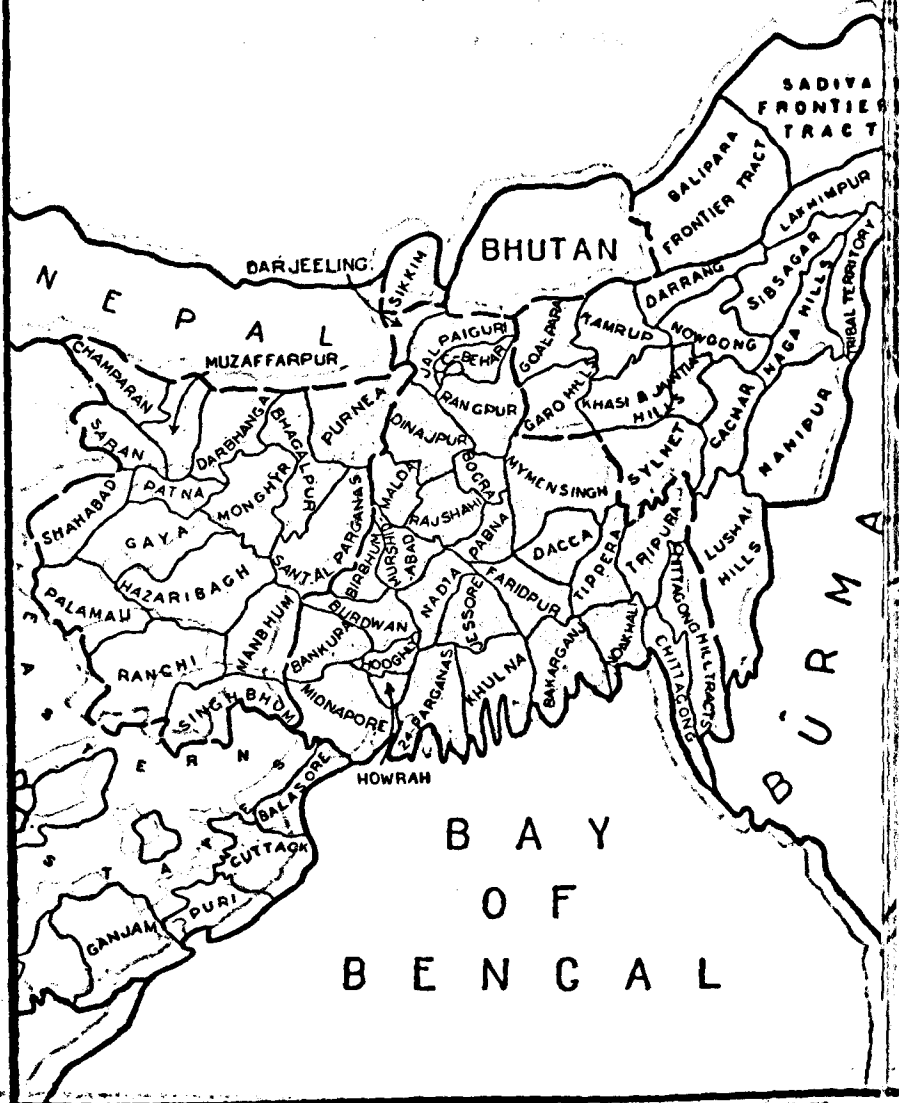
DISTRIBUTION OF JUTE ACREAGE

CALCULATED ACREAGE FOR 1937-38.

EACH DOT REPRESENTS 1,000 ACRES.



DISTRICTS OF THE PROVINCE



INTRODUCTION

A. HISTORICAL

1. ORIGIN OF THE PLANT.

1. The ancient literature of Greece, Egypt and Arabia contain description of a plant, used as a pot herb in those countries, which is supposed by many to have been the same as *Corchorus olitorius* (one of the two varieties of jute grown).¹ It is interesting to note that some people have regarded it as the identical plant alluded to in Job, chapter XXX, verse 4, as "the food of the wretched."² Thus, it may be inferred that jute had its origin somewhere in the Mediterranean regions. It cannot definitely be stated when the plant was actually introduced into India³ but there is evidence to show that jute has been cultivated in this country since time immemorial. The word *patta*, meaning 'a peculiar kind of fine cloth made of bark,' occurs in Manu, which seems to indicate that the plant was known in 800 B. C.⁴ Again, the epic Mahabharat, recorded in 300 B. C., contains reference to *pat*, meaning "to surround," which has, therefore, been interpreted as the fibre surrounding the stem.² In current Bengali, *pat* invariably means the fibre as well as the plant from which it is produced. Like the plant, the origin of the word "jute" is also obscure. It has been established that it is neither a Dutch nor an English word.³ The probability has been mentioned that it is an adaptation of the Ooriya word "*jhout*" (meaning *pat*) which the English people heard from their gardeners who generally hailed from Orissa.

2. INDIGENOUS JUTE INDUSTRY OF INDIA.

2. In spite of its antiquity, the cultivation of jute did not develop to any great extent until early in the nineteenth century. Prior to that period, the leaves of the plant were used for food and medicinal purposes,² while the fibre was used for cordage and for making a coarse kind of cloth called *tat* or *chotc*.⁵ The

¹ Fibrous Plants of India by J. F. Royle (1855), p. 241.

² Report on the Cultivation of, and Trade in, Jute in Bengal by H. C. Kerr (1874), p. 12.

³ Ibid, p. 19.

⁴ Ibid, p. 13.

⁵ Royle, op. cit., p. 243.

potentialities of the fibre as a substitute for flax and hemp had long been present in the mind of the English traders in India, but it was not till 1793 that jute was exported to any foreign country.¹ In that year 100 tons of jute were shipped to England, and it is significant that it was described as *pat* not jute.² This and a few other shipments were sent to Scotland for experimental purposes as the flax spinners of Dundee were anxious to know if jute lent itself to mechanical processing, but no progress was made until 1822. It was during this period, however, that the hand woven jute goods came to be known outside India and were exported to Java, Borneo and America.³ It is not known when these local goods were exported for the first time, but it is recorded that 1,013,277 pieces of gunny and gunny bags were exported in 1828-29, and as many as 9,006,415 pieces in 1829-30.⁴ The next forty years were a period of sustained prosperity for the indigenous industry. The exports in 1849-50 were 13,199,480 pieces valued at Rs. 26,83,551,⁵ the peak being attained in 1865-66 when 41,425,809 pieces of a total value of Rs. 83,40,346 were exported.⁶ The hand woven jute goods held the field only for a few years after this, and their importance in foreign countries waned with the development of the jute mill industry in Dundee and later on in India.

3. DEVELOPMENT OF THE JUTE MILL INDUSTRY.

3. The year 1838 marks the commencement of a new era for the jute industry.⁷ The Dundee mill-owners had succeeded in perfecting the technique of spinning jute into yarn and were producing jute goods by modifying their power driven flax machinery. This resulted in the development of the overseas trade in the raw fibre, and the quantity exported rose from 18 tons valued at Rs. 620 in 1828-29 to about 8,785 tons worth Rs. 4,36,667 in 1836-37.⁸ The steady progress made by the new industry in Dundee may be gauged by the increasing export of raw fibre from India during the next

¹ Kerr, op. cit., p. 17.

² Romance of Jute by D. R. Wallace (1928), p. 5.

³ Wallace, op. cit., p. 2.

⁴ Report of the Bengal Jute Enquiry Committee, 1939, Vol. 1, p. 5, also Productive Resources of India by J. F. Royle (1840).

⁵ Royle, op. cit., p. 251.

⁶ Kerr, op. cit., Appendix L.

⁷ Wallace, op. cit., p. 1.

⁸ Kerr, op. cit., p. 71.

decade, the shipments amounting to 29,140 tons valued at Rs. 19,70,715 in 1850-51.¹ During the Crimean war of 1854-56, supplies of Russian flax were cut off, which gave a further impetus to the jute industry in Dundee and, consequently, to the demand for raw jute. A few years later, in 1860-61, the export of raw jute from India amounted to 54,822 tons valued at Rs. 41,07,453.¹ The decline of the flax trade which had begun in 1838 became more rapid and the manufacture of jute soon became Dundee's most important industry.

4. The year 1855 may be regarded as one of outstanding importance in the history of the jute industry in India as, in that year, the first jute spinning mill was set up at Rishra² by an Englishman, George Ackland.³ This was followed four years later by the introduction of power looms in the country and the first power-driven weaving factory with 192 looms was started in 1859⁴ at Baranagar.⁵ Later, other mills were started, and by 1869, five mills were working with a total loomage of 950. By 1885 the number of mills in India had increased to twenty with a total of 6,700 looms,⁴ while the export of raw fibre amounted to 385,435 tons in 1885-86.⁷ The jute industry had, until then, been confined to Dundee and Calcutta. Foreign countries did not develop the manufacturing side of the industry until long after Dundee had established a dominant position in the production of jute goods. France, America and, later, Italy and Germany turned to jute manufacturing in the last decade of the nineteenth century. This caused an additional demand for the raw fibre resulting in the export of 632,434 tons in 1900-01 and 827,000 tons in 1908-09.⁷ Meanwhile rapid progress was being made by the jute mill industry in India. The number of looms had increased to 15,213 in 1901, and there were 38 companies controlling 30,685 looms in 1909.⁸ The export of the Indian manufactured jute goods likewise improved, and the shipments

¹ Kerr, *op. cit.*, p. 71.

² Situated about 13 miles north of Calcutta on the right bank of the river Hooghly.

³ Wallace, *op. cit.*, p. 7.

⁴ *Ibid.*, p. 95.

⁵ Situated about 7 miles north of Calcutta on the left bank of the river Hooghly.

⁶ Wallace, *op. cit.*, p. 105.

⁷ *Ibid.*, p. 64.

reached a total of 1,000 million yds. of cloth and 451 million bags in 1910.¹

5. The following thirty years were remarkable more for the expansion of the industry in India than abroad. The number of mills in this country is now (1940) reported to be 84 with a total of 68,676 looms.² The export of jute goods, which commenced with coarse hand-woven articles, has assumed tremendous proportions and the total shipments in 1937-38—1,020,399 tons valued at Rs. 29,07,76,000—clearly illustrates the progress made by the industry. The overseas requirements of raw fibre, however, do not show proportionate increase. Nevertheless, from the small beginning made in 1828-29—18 tons of fibre valued at Rs. 620 were exported that year—there has developed a demand which attained its peak exactly 100 years later, *i.e.* in 1928-29 when the export of raw jute amounted to 897,900 tons. More recently there has been a slight recession, the exports in 1937-38 being 747,000 tons valued at Rs. 14,72,00,000.³ Thus, through the continuously increasing demand for the raw fibre and its manufactures, the jute plant has become the most important money crop of Bengal and of parts of Bihar, Assam and Orissa.

B. EVOLUTION OF THE USES OF JUTE

6. Jute, like flax and hemp, had to pass through the transitional stages of cordage and coarse fabrics before attaining recognition as a textile fibre of commercial importance. Wherever jute was grown, the village folk spun the fibre into yarn which they used for making cordage "both for agricultural purposes and for river navigation, as well as for making paper."⁴ The next step was the interlacing of the yarn, by means of primitive hand looms, into strips of narrow fabrics. These fabrics, though rough, were employed for various domestic purposes, such as beddings, mattings, and even as garments; and, by piecing a few strips together, it was possible to make containers or wrappers for agricultural produce. The employment of jute fabrics as bagging may be regarded as the turning point in the history of the fibre. Its apparent similarity to flax and hemp and the commercial importance attained by hand-woven jute goods led to experiments by Dundee flax spinners for its manufacture by

¹ Wallace, *op. cit.*, p. 105.

² *Book of Reference*, Indian Jute Mills Association, 1940, p. 109.

³ *Annual Statement of the Sea-borne Trade of British India*.

⁴ Royle, *op. cit.*, pp. 242-3.

mechanical means. The ligneous character of the fibre had been the greatest impediment to success in that direction, but once this was overcome by the application of oil and water—the process is called “batching”—a new era began for the jute industry.

7. The Dundee jute industry first interested itself in making coarse bagging, but greater experience finally resulted in the manufacture of a finer fabric called “hessian”. By the time the first jute mill was established in India, this superior cloth was finding a ready sale, particularly in America, and it was not until some twenty years had elapsed that the mills in India were in a position to compete with Dundee for a share of the profitable hessian trade: from about 1875 onwards they systematically increased the output of this finer cloth so that by 1910, 57 per cent. of their looms were engaged in its manufacture. The percentage of the hessian looms increased to 63 in 1926,¹ and the position today is more or less unchanged. India’s challenge spurred the Dundee manufacturers to explore fresh avenues for the use of jute. The advance in this direction was rather slow in the beginning, but considerable developments took place immediately before, as well as after, the Great War. The possibilities of bleaching and water-proofing jute fabrics lead to the manufacture of tarpaulins and canvas. The technique of employing jute yarn in combination with cotton and wool was also perfected, and curtains, upholstery fabrics, carpets and even dress materials made wholly or partially of jute are attaining increasing popularity. In contrast to the progress of the Dundee jute industry, the jute mills in India still concentrate largely on the manufacture of the commoner classes of hessian and sacking, and make comparatively small quantities of tarpaulins and canvas. Though the number of looms in India has steadily increased, little or no attempt was made by the mills, until recently (1937), when the Indian Jute Mills Association Research Department came into being, to explore scientifically other possible uses to which this valuable fibre could be put apart from the manufacture of containers and wrappers.

C. CULTIVATION OF JUTE

1. INDIA.

8. It appears that no estimate of jute acreage and cultivation was made previous to 1872. In 1873, however, Mr. Hem Chunder Kerr was placed by the Government of Bengal on special duty to “Enquire into the Production of, and Trade in Jute.” His report published in 1874 was “minute and exhaustive” and

¹ Wallace, *op. cit.*, p. 81.

was considered "a most valuable one" by the Lieutenant-Governor of the Province. The information he collected from all districts showed that in 1872, the total area under jute in Bengal—as it was then constituted—was approximately 925,899 acres with an estimated outturn of 13,568,485 mds.¹ His report also proved that, according to the district officers, jute cultivation had been increasing since the middle of the nineteenth century.² It was not till 1886-87, however, that jute was added to the list of agricultural crops in the "Statistical Abstract of British India." Although complete figures for the earlier years are not available, the following quinquennial averages show the extent of the increase in jute cultivation.

Development of Jute Production in India.

Average	Area	Production
	Acres (000)	Bales of 400 lbs. each (000)
1892-93 } 1896-97 }	2,168	5,746
1897-98 } 1901-02 }	2,007	5,790
1902-03 } 1906-07 }	2,793	7,290
1907-08 } 1911-12 }	3,090	7,954
1912-13 } 1916-17 }	2,915	9,085
1917-18 } 1921-22 }	2,419	6,906
1922-23 } 1926-27 }	2,864	8,588
1927-28 } 1931-32 }	3,057	9,435
1932-33 } 1936-37 }	2,479	8,077
1937-38	2,888	8,680
1938-39	3,164	6,844
1939-40**	3,118	9,646

Source :—Annual Jute Forecasts (Revised Estimates).

** Jute Forecast for 1939 (Final Estimates).

¹ Kerr, op. cit., p. 65.

² Ibid, p. 20.

9. The estimates of jute area and outturn appear to have been published in the form of a forecast for the first time in 1892-93, the area in Bengal being 1,997,439 acres and the outturn 5,700,000 bales of 400 lbs. each. There was no notable increase in the acreage till 1903-04, but the expansion of cultivation was remarkable in the following four years; the acreage under jute in 1907-08 was estimated at 3,883,200, which appears to be the largest area ever put under this crop. From 1908-09 to 1920-21, according to the annual forecasts, the estimated jute cultivation varied between 2.4 and 3.4 million acres. The post-war depression, which commenced in 1920-21, witnessed a considerable decrease in the area under jute which was estimated at 1,518,358 acres in 1921-22. Since then it appears that there have been violent fluctuations in the estimated jute acreage from year to year, and the high figure of 1907-08 has been approached once only, in 1926-27, when the area under jute was estimated at 3,846,200 acres. The area and production were estimated at 2,888,000 acres and 8,680,000 bales in 1937-38.¹

2. FOREIGN COUNTRIES.

10. The production of jute is an Indian monopoly as practically the whole of the world crop is grown in this country. There are, however, a few countries, particularly in the Far East, where jute has been produced successfully since, at least, the beginning of the present century. It is not possible to say when its cultivation commenced in China, but in view of the fact that it was grown in that country in the middle of the last century,² it may be presumed that jute has been known there for a long time. The extent of the cultivation of jute in foreign countries is briefly discussed below.

11. (a) *French Indo-China*³—The cultivation of jute in French Indo-China has not attained any great importance. During the last thirty years, the area cultivated has increased from 198 acres yielding a crop of about 59 tons in 1911 to 500 acres with an outturn of 100 tons in 1937.

12. (b) *Japan*³—Jute appears to have been grown in Japan for at least the last thirty years (no previous figures are available),

¹ Annual Jute Forecasts (Revised Estimates).

² Royle, *op. cit.*, p. 242.

³ Year Book of Agricultural Statistics (International Institute of Agriculture, Rome).

but its cultivation has not increased to any extent, the area and outturn being respectively 1,362 acres and 900 tons in 1914, and 2,500 acres and 1,200 tons in 1937.

13. (c) *Formosa*¹.—Of all the places outside India, the island of Formosa has been the most successful in growing jute. No information is available regarding the commencement of jute cultivation there, but in 1909—the first year for which statistics are available—the area under jute was 4,945 acres with an outturn of 2,615 tons. During the last few years, the Agricultural Department of Japan has been trying to increase its cultivation. In 1937, the jute acreage was 12,800 acres, and it was proposed to increase it to 62,500 acres by 1948. Progress was so rapid that in two years (1939), the area under jute had reached 60,000 acres yielding a crop of about 30,000 tons.²

14. (d) *Manchuko and China*³.—Figures of the acreage and outturn of jute in these countries are not forthcoming, but the following export figures show that jute cultivation is not negligible.

<i>Years</i>		<i>Manchuko</i>		<i>China</i>
1935-36	—	3,000 tons	...	4,000 tons
1936-37	—	2,000 „	...	7,000 „
1937-38	—	2,000 „	...	4,000 „

15. It is regrettable that the information about the extent of jute acreage and outturn in foreign countries is not regularly available. The quinquennial averages of acreage and outturn during the last twenty years in the countries previously mentioned are given below. These are based on the statistics compiled by the International Institute of Agriculture, Rome. It should be pointed out, however, that the Institute does not receive the necessary information from many countries and, therefore, its jute statistics cannot be regarded as complete. Attention should also be drawn to the fact that although Nepal grows about 10,000 tons of jute annually, no information regarding acreage is available.

¹ Year Book of Agricultural Statistics (International Institute of Agriculture, Rome).

² Indian Central Jute Committee's Bulletins, Vol. II, Nos. 7 & 9.

³ Industrial Fibres (published by the Imperial Economic Committee), 1939, p. 100.

AREA UNDER JUTE IN FOREIGN COUNTRIES.
(Hectares).

Average	Indo-China	Formosa	Japan
1918-1922	— 225 ...	2,425 ...	663
1923-1927	— 307 ...	2,312 ...	613
1928-1932	— 598 ...	2,549 ...	784
1933-1937	not available ...	5,000 ...	1,000

Hectare=2.47 acres.

PRODUCTION OF JUTE IN FOREIGN COUNTRIES.
(Quintals).

Average	Indo-China	Formosa	Japan	Nepal
1918-1922	not available ...	26,770 ...	63,420 ...	119,609
1923-1927	— 1,917 ...	34,655 ...	52,821 ...	126,819
1928-1932	— 3,368 ...	41,017 ...	49,605 ...	113,720
1933-1937	— 3,400 ...	90,750 ...	58,000 ...	108,000

Quintal=220.46 lbs.

Source :—Year Book of Agricultural Statistics, op. cit.

16. (e) *Other Countries*—Besides the above, a number of other countries have been making efforts to grow jute. Prominent among these are :—

(i) *West Africa*¹—Jute was first cultivated experimentally in 1836. It was tried in Gambia, Sierra-Leone and Nigeria. But, on the whole, the results obtained did not prove satisfactory. The costs were high, the yield low and the fibre was short, harsh and brittle.

(ii) *Sudan*¹—Attempts were made to grow jute, but they failed owing to the unsuitability of land and climate, and also because of the lack of proper agricultural knowledge on the part of the cultivators.

(iii) *Egypt*²—Jute had been grown earlier on an experimental basis, but in 1938, 500 acres were placed under that crop which yielded 400 tons of fibre. During 1939, 1500 acres were to have been devoted to the cultivation of jute.

(iv) *Turkey*³—Experimental jute cultivation was carried out from time to time, but it did not prove

¹ Cotton and Other Vegetable Fibres, by E. Goulding.

² Indian Central Jute Committee's Bulletins, Vol. I, Nos. 4, 10, 12, Vol. II, No. 11.

³ Indian Central Jute Committee's Bulletins, Vol. I, Nos. 4 & 8.

successful. The Turkish Government is, however, continuing its efforts and, early in 1939, it approached the Government of Bengal for the supply of improved jute seeds.

(v) *Iran*¹—Small quantities of jute are also produced in Iran—138 tons in 1932, 630 tons in 1933 and 364 tons in 1934. The area under that crop in 1938 was approximately 5,000 acres (production figures for that year are not yet available).

(vi) *Thailand (Siam)*²—Many tracts of Northern Thailand having been found to be climatically suited to the cultivation of jute, it was proposed by the Government in 1937 that large areas should be put under that crop. Experiments in this direction have proved successful, and attempts are now being made to grow jute on a large scale.

(vii) *Java*³—All efforts to grow jute in Java have so far failed, but a substitute fibre, called Rosella, is being grown in increasing quantities, and is proving a dangerous rival to jute in Java owing to the Dutch Government's policy of protection.

(viii) *Paraguay*²—In 1938, 1500 acres (600 hectares) of land were put under jute cultivation. The fibre has been reported to be equal to the Indian jute in all respects.

(ix) *Brazil*⁴—Jute is being grown by Japanese settlers in the Amazon State. During 1938-39, about 500 tons of fibre were produced. The State Government has promised to give 25,000 acres of land free of taxes to the settlers should their scheme prove successful in 1939-40.

(x) *Mexico*⁵—A small quantity of jute is grown, but owing to adverse weather conditions larger efforts have not proved successful so far.

¹ Indian Central Jute Committee's Bulletin, Vol. I, No. 6. Also Year Book of Agricultural Statistics, op. cit.

² Indian Central Jute Committee's Bulletin, Vol. I, No. 6.

³ Indian Central Jute Committee's Bulletin, Vol. I, No. 3.

⁴ " " " " " " Vol. I, Nos. 6 & 10, & Vol. II, No. 3.

⁵ Indian Central Jute Committee's Bulletin, Vol. I, No. 9.

17. This short review shows that systematic attempts are being made by various countries to grow jute. So far no substantial success has been achieved anywhere except in Formosa. According to the figures available, the total quantity of jute grown outside India may be estimated at 40,000 tons per annum, or about 2.6 per cent. of the total world supplies.

CHAPTER I

SUPPLY

A. CONDITIONS GOVERNING CULTIVATION

18. Jute is an annual plant of the natural order of Tiliaceae and belongs to the genus *Corchorus*. It is grown entirely for its fibre which is of great commercial importance in the textile industry of the world. In Bengal it is commonly called *pat*, *pata* or *kashita*, and in Bihar *patua*. It is a rainy season crop, being sown from mid February to mid May, according to rainfall and type of land, and is harvested from the middle of June until September, the harvest time depending upon whether the sowings are early or late. It thrives best in damp heat and is, therefore, grown in localities in which the maximum day temperature normally attains about 100°F. in shade, and where the humidity varies from 70 to 90 per cent. A rainfall of two to three inches spread over a month, at the time of sowing, and about two inches per week subsequently may be considered suitable conditions for the growth of jute. Excessive rainfall and soil saturated with moisture retard sowings and interfere with the after-treatment of seedlings, *i.e.*, weeding and harrowing. If such conditions persist, the development of the plants is affected adversely. The type of soil best suited to the growth of jute is, therefore, loam or sandy loam which quickly absorbs rain water. This soil is preferable to stiff clay or sand as the former does not absorb rain water and the latter does not retain moisture.

B. ACREAGE

1. TOTAL JUTE AREA AND ITS DISTRIBUTION.

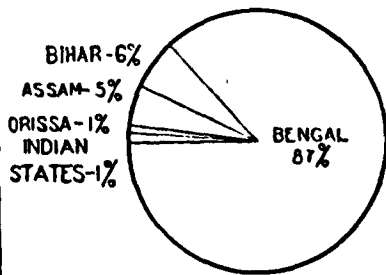
19. The official estimate of the area under jute cultivation in the whole of India was 2,888,000 acres in 1937-38. Jute is widely grown in Bengal where it was estimated to form 8.7 per cent. of the 1937-38 estimated net cropped area. The other Indian provinces in which jute is grown in appreciable quantities are Bihar, Assam and Orissa.¹ Among the Indian States, only Cooch Behar and Tripura grow jute. The relative position of various provinces and States in the matter of jute acreage is shown in the table below and illustrated in the diagram.

¹ According to the "Agricultural Statistics of India" (1939), the area under jute in the United Provinces was 3,137 acres in 1936-37
(Continued on page 14)

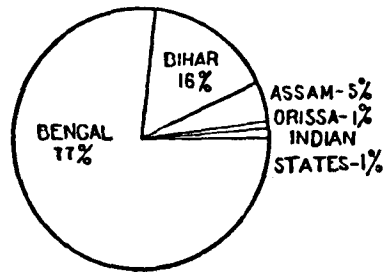
DISTRIBUTION OF JUTE CULTIVATION.

ACCORDING TO FORECAST ESTIMATES

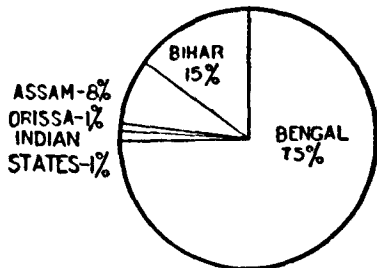
1935-36



1936-37



1937-38



1938-39

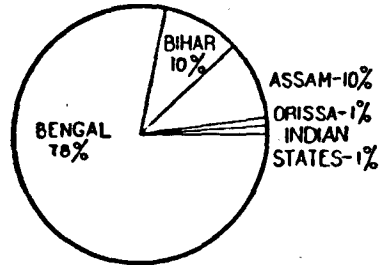


TABLE I
Estimated Area under Jute in British India and States.
(Thousand acres)

Provinces.	1928-29	1929-30	1930-31	1931-32	1932-33	1933-34	1934-35	1935-36	1936-37	1937-38	1938-39	1939-40
Bengal	2,667	2,986	3,023	1,597	1,822	2,143	2,321	1,899	2,220	2,167	2,475	2,504
Bihar †	247	238	238	149	170	192	174	128	464**	445	316	266
Assam	195	157	192	99	127	157	149	118	157	219§	303	281
Orissa ... ..	...	...	...	...	...	...	...	17	14	16	25	23
Total British Provinces.	3,109	3,381	3,458	1,845	2,119	2,491	2,644	2,162	2,855	2,847	3,119	3,074
Total Indian States (Cooch Behar & Tripura)	35	34	34	17	24	26	26	19	31	42	47	46
Grand Total	3,144	3,415	3,492	1,862	2,143	2,517	2,670	2,181	2,886	2,889	3,166	3,120

† Figures for the years prior to 1935-36 relate to 'Bihar & Orissa'.

** Apparent increase in acreage due to revision of the figures after jute survey in Purnea district.

§ Apparent increase in acreage due to revision of the figures after jute survey in Sylhet district.

Source:—Annual Jute Forecasts, Government of Bengal (Revised Estimates). The figures for 1939-40 are based on the Final Forecast.

20. (a) *Bengal*—In 1937-38, Bengal (including the States of Tripura and Cooch Behar) was responsible for 76.5 per cent. of the estimated all-India jute acreage. The most important jute districts of Bengal are Mymensingh, Dacca, Rangpur, Tippera and Faridpur which, jointly, accounted for 65.6 per cent. of the estimated provincial acreage in 1937-38.

TABLE II.
Estimated Area under Jute in Bengal (1937-38).

District.	Acres.	Percentage of the provincial jute area.
24 Parganas	45,000	2.0
Nadia	63,000	2.9
Murshidabad	53,500	2.6
Jessore	73,600	3.3
Khulna	18,100	0.8
Burdwan	1,100	0.1
Midnapore	3,400	0.2
Hooghly	22,500	1.0
Howrah	3,000	0.1
Rajshahi	76,800	3.5
Dinajpur	63,000	2.9
Jalpaiguri	35,700	1.9
Darjeeling	1,800	0.1
Rangpur	258,000	11.7
Bogra	79,000	3.6
Pabna	76,000	3.4
Malda	12,800	0.6
Dacca	259,000	11.7
Mymensingh	524,500	23.7
Faridpur	196,000	8.9
Bakarganj	41,500	1.9
Chittagong	300	0.0
Tippera	213,000	9.6
Noakhali	42,000	1.8
Total	2,166,600	98.1
Cooch Behar	34,500	1.5
Tripura	7,800	0.4
Grand Total (Bengal) ...	2,208,900	100.0

Source—Jute Forecast (Revised Estimates).

(Continued from Page 12)

But an Enquiry conducted by the Indian Central Jute Committee in January, 1940, showed that in 1939 the probable jute area in the U. P. was about 12,000 acres. No provincial forecast is prepared for the U. P. jute acreage, nor is the area under that crop classified separately in the district crop returns (except for Sitapur and Kheri). A separate note on "The Cultivation of Jute in the U. P." will be found in Appendix A.

21. (b) *Bihar*—Bihar is the next most important province. In 1937-38, it accounted for 15.4 per cent. of the estimated all-India jute acreage. Purnea district has by far the largest acreage under jute: in 1937-38, it claimed 97.5 per cent. of the estimated Bihar jute acreage.

TABLE III.
Estimated Area under Jute in Bihar (1937-38).

District.	Acres.	Percentage of the provincial jute area.
Champanan	2,475	0.6
Muzaffarpur	4,120	0.9
Darbhanga	430	0.1
Bhagalpur	3,384	0.8
Purnea	434,115	97.5
Santal Parganas	500	0.1
Total	445,024	100.0

Source—Jute Forecast (Revised Estimates).

22. (c) *Assam*—The province of Assam ranks third with 7.6 per cent. of the estimated all-India acreage in 1937-38. The districts of Goalpara, Nowgong, Kamrup and Sylhet are the prominent jute growing districts. In 1937-38, their combined acreage under jute represented 92.6 per cent. of the estimated provincial area.

TABLE IV
Estimated Area under Jute in Assam (1937-38).

District.	Acres.	Percentage of the provincial jute area.
Cachar (Plains)	200	0.1
Sylhet	37,200	17.0
Goalpara	59,300	27.1
Kamrup	17,800	21.8
Darrang	10,300	4.7
Nowgong	58,600	27.7
Sibsagar	100	0.2
Lakhimpur	1,100	0.5
Garo Hills (Plains)	4,200	1.9
Total	219,100	100.0

Source—Jute Forecast (Revised Estimates).

23. (d) *Orissa*—When Orissa was created a separate province, its jute statistics were separated from those of Bihar with effect from the crop year 1935-36. In 1937-38, it accounted for 0.5 per cent. of the estimated all-India jute acreage. Cuttack is the most important district with 91.0 per cent. of the estimated provincial acreage.

TABLE V.
Estimated Area under Jute in Orissa (1937-38).

District.	Acres.	Percentage of the provincial jute area.
Cuttack	14,200	91.0
Balasore	1,100	7.0
Puri	310	2.0
Total	15,610	100.0

Source—Jute Forecast (Revised Estimates).

24. (e) *Other Provinces*—A certain amount of jute is also grown in the United Provinces—which is the subject of a separate Note¹—as well as in Madrás, almost all of which is consumed locally.

2. PREPARATION OF ACREAGE ESTIMATES.

25. The estimates of provincial jute acreages are collected under instructions from the respective Directors of Agriculture. In Bengal and Orissa, *chowkidars* report estimates of their respective village jute acreages to Union Boards, which are small local self-governing bodies set up in rural areas by the provincial authorities. The same system is followed in some parts of Bihar and in the permanently settled districts of Assam. In other parts of Bihar, where Union Boards do not operate, *chowkidars* report to their respective *thana* (Police Station) officers; and, in the temporarily settled districts of Assam, village headmen report direct to Sub-Deputy Collectors. Schedules, supplied by the Departments of Agriculture, are filled up by the Presidents of Union Boards or the *thana* officers, as the case may be, and are then forwarded to Circle Officers or Sub-Deputy Collectors who pass on the schedules to Sub-Divisional Officers. At this stage the figures are grouped according to *thanas*, and are later on submitted to Collectors who are empowered to alter or revise the Union Board

¹ Cf. Appendix A.

figures. Finally, the district figures are forwarded to the various provincial Directors of Agriculture who form their own estimates of the jute area in different districts on the basis of information received from their departmental staffs—Demonstrators and District Agricultural Officers. The two sets of acreage estimates are thus considered together, and estimates for each district, and the total for the province are finally decided upon by the Directors of Agriculture. A consolidated preliminary forecast is then issued by the Director of Agriculture, Bengal, between the 7th and 15th of July each year and is published in the form of a pamphlet. It contains information on the following points:—

- (i) Names of districts,
- (ii) Estimated area under jute during the previous and current years,
- (iii) Notes on stocks carried forward in districts,
- (iv) Date when sowing was commenced, and
- (v) Remarks by District Officers.

26. Prior to 1935, the preliminary and final forecasts were each published as a whole for the entire jute area. Business circles were of the opinion, however, that the procedure led to violent speculative transactions, and had a disturbing influence on legitimate trading for some time, both before and after the publication of the forecast. Since 1935, therefore, the figures have been issued in groups of districts spread over a number of days. The trade appears now to be satisfied that the new arrangement has, by eliminating the element of surprise, greatly reduced the opportunities which previously existed for speculators to gamble on the probable outturn.

27. The main defects in the system of collecting estimates of jute acreage lies in the fact that the primary reporting is done by *chowkidars* who are, mainly, illiterate men incapable of assessing accurately the variations in village sowings. It is more than doubtful if these petty officials really make any genuine effort to enquire into the position of the crop from individual growers. Further, the reports submitted by them are not checked, since no direct supervision is exercised by the Union Boards, and the *thana* officers merely pass on the figures to the revenue authorities. The latter have no effective means of testing the accuracy or otherwise of the Union Board Schedules. Thus, the estimates reported by *chowkidars* find their way to the Department of Agriculture without being checked in any way.

3. CORRECTION OF ESTIMATES.

28. (a) *Desirability of*—The importance of correct jute acreage and outturn estimates has been stressed frequently by various interests. Until 1935, however, no steps appear to have been taken to improve the accuracy of the forecast estimates, and the subsequent provincial attempts at revision by actual survey of the jute growing areas were probably dictated by the following considerations:

- (i) Pressure of public and trade opinion, and
- (ii) Allocation of the major share of Jute Export Duty to the provinces.

(i) The utility to business concerns of correct information regarding the potential supply of jute each year is obvious. The discrepancies between the forecast outturn estimates and actual arrivals failed to inspire confidence and led to severe criticism in the commercial press. It has been a long standing practice with the larger jute firms to prepare their own estimates of outturn on the basis of information supplied by their up-country agencies. A similar practice prevails in other trades also, such as wheat, cotton, etc. While not necessarily implying complete lack of faith in the official figures, it does prove that the estimates are not accurate enough to be of value to business circles.

(ii) Since the imposition of the Jute Export Duty by the Government of India in 1916, the revenue therefrom used to be wholly appropriated by the Central exchequer. However, as about 90 per cent. of the all-India estimated jute acreage and almost all the jute mills were located in that province; Bengal claimed a substantial share of the proceeds of the duty. Consequently, provision was made in the Government of India Act, 1935, to distribute 50 per cent. of the proceeds of the Jute Export Duty among the jute growing provinces, and was given effect to the year before the Provincial Autonomy came into force. But, later, the provincial share was increased to 62½ per cent. following the recommendations of Sir Otto Niemeyer who was invited by the Government of India to report on the finances of the country.¹ Under the new arrangement, the distribution of Jute Export Duty to each province, in any financial year, is made in the proportion which the average production of

¹ Cf. Indian Financial Enquiry Report, 1936.

raw jute in the five preceding years in that province bears to the total outturn of jute in India.

(b) *Official attempts.*

29. (i) *Bihar*—The province of Bihar was the first to take up this matter. The annual outturn estimates of the province generally fell short of the total visible supply for the corresponding period; for example, in the year 1935-36, the outturn was estimated at 319,000 bales (of 400 lbs.) whereas the actual net exports and the approximate internal consumption amounted to 691,000 bales.¹ This discrepancy was thought to be due to under-estimation of the acreage, and a survey of the jute area in Purnea district was, therefore, undertaken in 1936, and completed in the same year. As a result the revised acreage under jute in Bihar was estimated at 464,000 acres in 1937, against 211,000 in 1936.

30. (ii) *Orissa*—Prior to 1937, Orissa was administered jointly with Bihar, and no separate rail and river-borne statistics were published for that province. After its separation in 1936, strenuous efforts were made by the local government to develop the resources of the province and, among other things, the improvement of the cultivation and marketing of jute was taken in hand. At the request of the provincial government, the Indian Central Jute Committee agreed to finance the survey of the standing jute crop in Orissa. The survey was carried out during the period August to October 1938, and showed an estimated jute area of 24,900 acres as against the pre-survey estimate of 11,900 acres.²

31. (iii) *Assam*—At the request of the Indian Central Jute Committee in the early part of 1937, the Government of Assam agreed to undertake a detailed jute survey of Sylhet and Goalpara—the two permanently settled districts—and to arrange for the checking and verifying of the *Patwari* records in the temporarily settled districts, the cost of the survey to be borne by the Indian Central Jute Committee. A survey of the jute areas in this province was essential, as the estimates of production usually fell short of the probable outturns calculated on the basis of net exports plus estimated internal consumption. The year 1935-36 may be cited as an example, when the official estimate of the outturn was 313,000 bales against a probable crop of 408,000 bales calculated on the basis of visible

¹ Cf. Table VIII, *infra*.

² Cf. Table IX, *infra*.

supply.¹ The Assam Government carried out the survey of 4 out of 5 sub-divisions in Sylhet District during 1937-38, and of the remaining sub-division in 1938-39. As a result of the survey, the total jute area in Sylhet was reported to be 42,100 acres against the previous estimate of 13,300 acres. A beginning was also made in the Goalpara district in 1938-39, and the verification of the jute area in the temporarily settled districts was begun in 1938-39.²

32. (iv) *Bengal*—At its first meeting in February 1937, the Indian Central Jute Committee decided that it was important that work of improving the jute forecast should be undertaken at an early date. While it favoured a complete census of the jute area spread over 5 years or, alternatively, a full crop census from which the jute area figures could be taken, the Government of Bengal did not consider the census practicable and suggested that a random sampling survey of the whole of the jute area might be completed in one year and might yield good results. Later, they suggested that by way of experiment an attempt should be made to estimate the area sown with jute in a small selected district by two methods, one of which was a random sampling survey, and the other a crop census. Accordingly, an experimental survey was undertaken at the end of 1937, but as it was commenced when very little jute was left in the fields, many difficulties were encountered. Hence, the Committee decided to continue the experiments; and, in 1938, an exploratory survey was carried out on the basis of the following programme:—

- (i) A complete enumeration of 6 or 8 *thanas* in important jute districts,
- (ii) Work on random sampling survey to be attempted in eight districts, choice of *thanas* in each district depending on the intensity of cultivation. Detailed records of costs were to be kept, and
- (iii) If time permitted, it was thought desirable to conduct a test survey with sample grids of the optimum size in a number of *thanas*.

But owing to early and exceptionally heavy floods, field work was interrupted and survey operations in many areas were

¹ Cf. Table X, *infra*.

² The checking of the jute growing areas in the temporarily settled districts in Assam was completed during 1939-40. The total provincial acreage under jute is now reported to be 345,632 against 158,000 estimated in 1936-37.

abandoned. The information collected in the form of random samples was, therefore, comparatively small. A special Jute Census Committee was set up in June, 1938, consisting of the representatives of the Government of Bengal and the Indian Central Jute Committee to control the experiments on the jute survey in Bengal. In October 1938, the Jute Census Committee decided that the experimental work should be continued in 1939 in accordance with the following programme:—

- (i) Random sampling work, spread over five districts, and
- (ii) Complete enumeration to be undertaken in two *thanas* of Mymensingh, one *thana* of Rangpur and one *thana* of Pabna.¹

33. (c) *Calculated acreage*—It would appear, however, that the post-survey acreage estimates of the various jute provinces are still open to improvement. As shown below, they do not compare favourably with the acreages calculated on the basis of the respective visible supplies of fibre. In 1937-38, the total production of jute was officially estimated at 8,680,500 bales, but the all-India crop calculated on the basis of known figures, i.e. actual arrivals in Calcutta, internal consumption, etc., should have amounted to 11,895,000 bales.² Similar discrepancies between the forecast estimates and the calculated production figures can

¹ The detailed programme of work for the 1939 survey included 683 square miles on which jute plots sown were to be completely enumerated and a further 2,562 square miles over which random plot and grid survey were to be carried out on a random sampling basis. The report on the random sampling experiments on the 1939 crop was considered by the Jute Census Committee in December 1939, and it was decided to omit complete enumeration from the Committee's programme of work and to carry through in 1940 a random sampling survey of the jute areas in eight principal jute districts of Bengal, viz. Mymensingh, Dacca, Rangpur, Tippera, Bogra, Rajshahi, Jessore and Nadia, comprising an area of 24,000 sq. miles. The cost of the work was estimated at Rs. 1,30,000. It was agreed that if the eight districts were surveyed in 1940, it would give all the information needed to enable the design and estimate for a satisfactory full scale provincial survey, proposed to be carried out in 1941, to be prepared. It is expected that the technique now being perfected will bring us within measurable distance of being able to estimate accurately year by year the area sown to jute by the examination of plots selected at random throughout the area but totalling in all only a small fraction of the whole area.

² Cf. Table XXII, infra.

be noticed for the previous year as well.¹ In the absence of reliable forecast estimates, therefore, it would appear that the only alternative is to calculate the annual outturn on the basis of visible supplies, and then to work out the annual acreage with the help of the year's crop-cutting yield per acre. By this method the area under jute in 1937-38 would work out as under.

TABLE VI
Forecast and Calculated Estimates of Jute Acreage for 1937-38.

1. Calculated total production (Cf. Table XXII) ...	...	11,895,000 bales
2. Yield per acre (Cf. Table XVIII) ...	...	3,047 "
3. Equivalent area harvested for fibre ...	...	3,903,839 acres
4. Add area retained for seed, i.e. 4.2 per cent. of (3) or 4.0 per cent. of total area (Cf. Table XX) ...	...	163,961 "
5. Probable all-India jute area ...	...	4,067,800 acres
6. Revised forecast estimate ...	...	2,888,600 "

On this basis, the all-India revised forecast estimate of jute acreage for 1937-38 appears to have been underestimated to the very considerable extent of 40.8 per cent. The all-India jute acreage has been calculated in a similar manner for a period of 6 years as shown in the table below.

TABLE VII
*Forecast and Calculated Acreages***

Year.	Thousand acres.		Percentage excess
	Revised forecast estimate.	Calculated estimate.	
1932-33	2,143	3,002	40.1
1933-34	2,517	3,158	25.5
1934-35	2,670	3,399	27.3
1935-36	2,181	2,949	35.2
1936-37	2,886	3,647	26.4
1937-38	2,888	4,067	40.8
Average 6 years.	2,547	3,370	32.3

** Calculated acreages for 1938-39 and 1939-40 could not be included in the Table as the crop-cutting experiment results were not available for those years.

¹ Cf. Table XXIII, infra.

It will be noticed that the extent of underestimation in the forecast acreages varied between 26 and 41 per cent. The probable jute acreage of the various provinces may now be calculated on similar lines and the results compared with the forecast estimates.

34. (i) *Bihar*—In Bihar, the jute area estimated in 1935-36 was 128,000 acres with an estimated outturn of 319,000 bales; but the net exports amounted to 618,000 bales. If the internal consumption of the province—which changes from year to year—

TABLE VIII
Probable Area under Jute in Bihar.

Item.	1935-36	1936-37	1937-38
1. Visible supply of jute calculated on the basis of actual net exports and estimated internal consumption (approximate) ...	691,000 bales	864,000 bales	658,000 bales
2. Yield per acre .. **	2.826 "	3.002 "	2.851 "
3. Equivalent area harvested for fibre	244,515 acres	287,808 acres	230,796 acres
4. Add area retained for seed 3.5% (Table XX) ...	8,558 "	10,073 "	8,078 "
5. Probable area under jute ...	253,073 acres	297,881 acres	238,874 acres
or ...	253,000 "	298,000 "	239,000 "
6. Official (Forecast) estimate of area ...	128,000 "	464,000 "	445,000 "
7. The official estimate exceeded (+), or fell short of (-), the probable area by	(-) 125,000 acres.	(+) 166,000 acres.	(+) 206,000 acres.

** No crop-cutting figures for Bihar were available. Therefore, its yield per acre was calculated from the weighted average of the Bengal crop-cutting experiments yields, modified in proportion to the standard yields of the two provinces (see Sec. D infra).

is also taken into account, the estimated outturn should have been about 691,000 bales, which on the basis of the calculated crop-cutting yield—2.826 bales per acre¹—would have been produced from 253,073 acres. After the survey of the jute area in Purnea

¹ See footnote to Table VIII.

district in 1936, the revised estimates of area and outturn for 1936-37 were shown as 464,000 acres and 1,084,000 bales respectively. The visible supply, however, was 864,000 bales which on the basis of the calculated yield of 3.002 bales,¹ probably represented 297,881 acres. It would seem to appear then, that the revised estimates for 1936-37 were on the liberal side. Again, the forecast estimates for 1937-38 showed an acreage of 445,000 and an outturn of 896,000 bales, while production on the basis of exports and internal consumption should have been 658,000 bales. With an average yield of 2.851 bales per acre¹ this crop could have been produced from 238,874 acres. The detailed calculations for the probable area under jute in Bihar during 1935-36 to 1937-38, are shown below. Judging from the above results, it appears that the average jute area in Bihar during the years under review was about 263,000 acres. It may further be pointed out that the area for 1938-39 was estimated at 315,500 acres in the revised forecast of the province, while according to the final forecast the jute area in 1939-40 was estimated at 265,500 acres.

35. (ii) *Orissa*—In Orissa, the jute area for 1937-38 was estimated at 15,600 acres and the outturn 33,000 bales, while the probable production on the basis of actual net exports plus the estimated internal consumption would not have been more than 29,000 bales. The area under jute on the basis of the calculated yields—2.851 bales per acre²—should, therefore, have been about 10,680 acres. Again, according to the final forecast for 1938-39, the estimated area and outturn of jute amounted to 11,900 acres and 28,200 bales. The Marketing Enquiry of the Indian Central Jute Committee has established that over 80 per cent. of the growers' jute in Orissa is sold by the end of December each year. On the basis of recorded exports of 26,000 bales up to 31st December 1938, it is probable that the production of 1938-39 was about 33,500 bales. Since the estimated yield per acre for 1938-39 was 2.37 bales,¹ the jute area sown in that year would appear to have been approximately 14,841 acres. Subsequent to the jute survey of the province, as mentioned in the preceding sub-section,

¹ See footnote to Table VIII.

² See footnote to Table IX.

the jute area of Orissa was estimated at 24,900 acres with a production of 58,000 bales. On the basis of the actual net exports and internal consumption, shown above, the total production could hardly have exceeded 33,500 bales which at the survey yield of 2.32 bales per acre, would account for 15,162 acres only. The relative position is set out in detail in the table below. The difference between the survey estimate of the area under jute in Orissa—24,900 acres—and the calculated area for 1938-39 15,162 acres—is too great to be ignored. The explanation may

TABLE IX
Probable Area under Jute in Orissa.

Item.	1937-38	1938-39	
		Based on forecast estimates	Based on survey estimates.
1. Visible supply of jute calculated on the basis of actual net exports and estimated internal consumption (approximate) ...	29,000 bales	33,500 bales	33,500 bales
2. Yield per acre ...	2.851 **,	2.37 § "	2.32 "
3. Equivalent area harvested for fibre	10,171 acres	14,135 acres	14,440 acres
4. Add area retained for seed 5% (Table XX) ...	508 "	706 "	722 "
5. Probable area under jute ...	10,680 acres	14,841 acres	15,162 acres
or	10,700 "	14,800 "	15,200 "
6. Official estimate of area ...	15,600 "	11,900 "	24,900 " †
7. The official estimate exceeded (+), or fell short of (-), the probable area by	+4,900 acres	-2,900 acres	+9,700 acres

** No crop-cutting figures for Orissa were available. Therefore, its yield per acre has been calculated from the weighted average of the Bengal crop-cutting experiments yields, modified in proportion to the standard yields of the two provinces (see Sec. D infra).

§ Final forecast yield was adopted as the crop-cutting figures for 1938-39 were not available.

† Post-survey estimate of the area under jute,

be that the yield per acre, 2.32 bales, as adopted officially is too high. The survey estimate of acreage can be reconciled to the visible supply of 33,500 bales if the yield per acre be 1.34 bales ($33,500 \div 24,900$), which would apparently be too low to be adopted. If, on the other hand, the yield per acre (2.32 bales) adopted for estimating the outturn on the completion of the survey is considered to be correct, the visible supply of fibre could be obtained from 15,162 acres only. This area, again, seems to be too low to be accepted in view of the results of the survey. But, if the yield per acre is taken to be 1.8 bales, *i.e.* the mean of 2.32 and 1.34, the visible supply of 33,500 bales could be obtained from an area of 18,600 acres. To arrive at the correct jute acreage for Orissa, however, it is necessary that steps be taken to check the yield per acre.

36. (iii) *Assam*—According to the final forecast for 1935-36, the estimated jute area in Assam was 118,000 acres and the production 313,000 bales. On the other hand, the probable crop calculated on the basis of actual movement statistics and internal consumption was 408,000 bales. Therefore, the area under jute on the basis of the visible supply and the calculated yield of 2.99 bales per acre¹ should have been 141,581 acres. Again, for 1936-37, the forecast estimates of area and outturn were 158,000 acres and 462,000 bales respectively. But the net exports for that year amounted to 813,000 bales.² This figure included the reported export of 225,540 bales in February 1937—*i.e.* 27.7 per cent. of the reported despatches during 1936-37—and appears to be unusually high in view of the fact that only 66,423 bales were exported in the month of January 1937. Moreover, the respective exports in February, 1936 and 1938, were 3.97 and 9.2 per cent. of the total seasonal exports. This shows that the export figures for February, 1937, are quite out of keeping with those of the same period for the preceding and following years. Probably an error has crept in somewhere.³ The exports for that month may, therefore, be taken as 6.6 per

¹ See footnote to Table X.

² Cf. "Inland Rail and River-borne Trade of India".

³ In order to locate the error, if any, inquiries were made at the office of the Director-General of Commercial Intelligence and Statistics as well as from the Joint Steamer Companies (I. G. N. R. & R. S. N.). Records however, did not reveal any mistakes. The Marketing Staff was unable to obtain the primary data from which results could be verified.

cent. of 1936-37 exports, which is the mean of the export percentages for February, 1936 and 1938. The exports for February, 1937, would thus amount to 41,540 bales and the total exports for 1936-37 would work out at 629,000 bales. The total outturn calculated on the basis of exports by railway and steamer, despatches by country boats and the internal consumption should, therefore, have been 677,000 bales. This, on the basis of the calculated yield of 3.18 bales per acre,¹ should have accounted for a total jute area of 221,130 acres. Thus, in the years 1935-36 and 1936-37, the area under jute was underestimated by 23,581 and 63,130 acres respectively. In the forecast for 1937-38, the jute area was estimated at 198,000 acres, and the revised figures issued in September 1938 placed the estimate at 219,000 acres. This was mostly due to the revision of the acreage estimates for Sylhet as a result of the survey operations. The visible supply of fibre for the same year was 622,000 bales which, on the basis of the calculated yield of 3.024 bales per acre,¹ could be produced from an area of 213,914 acres.

37. Estimates of acreage and outturn for years 1935-36 to 1937-38 are included in the table below. The acreage estimates calculated therein on the basis of the visible supply cannot, however, be considered conclusive. A large proportion of Assam jute is taken in country boats to the 'Jat' centres of East Bengal. No official or even reasonably accurate non-official statistics are at present available to show the extent of such traffic. For the purpose of this report the jute transported by country boats has been calculated at 4 per cent. of the net exports by railway and steamer. But this point can only be settled definitely when the results are available of a scheme, which has been sanctioned by the Indian Central Jute Committee, and which aims at ascertaining the quantities of loose and baled jute reaching Bengal from Assam by means of country boats down the Brahmaputra river.²

¹ See footnote to Table X.

² The actual work of enumeration was started on 21st September, 1939, at Jatrapur Reach, in Kurigram sub-division of Rangpur district, and continued up to 30th January, 1940. During this period 200,363 mds. of jute, equivalent to 41,227 bales of 400 lbs. each, were carried down the river by country boats. In addition, small quantities may go through during the remaining months of the jute season.

TABLE X
Probable Area under Jute in Assam.

Item	1935-36	1936-37	1937-38
1. Visible supply of jute calculated on the basis of actual net exports and estimated internal consumption (approximate) ...	408,000 bales	677,000 bales	622,000 bales
2. Yield per acre.** ...	2.997 „	3.184 „	3.024 „
3. Equivalent area harvested for fibre.	136,136 acres	212,625 acres	205,697 acres
4. Add area retained for seed 4.0% (Table XX) ...	5,445 „	8,505 „	8,227 „
5. Probable area under jute ...	141,581 acres	221,130 acres	213,914 acres
or ...	142,000 „	221,000 „	214,000 „
6. Official (Forecast) estimate of area. ...	118,000 „	158,000 „	219,000 „
7. The official estimate exceeded (+), or fell short of (-), the probable area by	-24,000 acres	-63,000 acres	+5,000 acres

** No crop-cutting figures for Assam were available. Therefore, its yield per acre has been calculated from the weighted average of the Bengal crop-cutting experiments yields, modified in proportion to the standard yields of the two provinces (see Sec, D *infra*).

38. (iv) *Bengal*—As no census of the jute area has so far been carried out in Bengal, it is not possible to calculate the probable jute acreage of the province. But, judging from the calculated total production and yield per acre,¹ it seems likely that the all-India jute area in 1937-38 was about 4,067,800 acres. From the calculations made above for each province separately, it appears, therefore, that probably the jute area in Bengal was 3,298,264 acres in 1937-38.

4. FLUCTUATIONS AND TRENDS.

39. A study of the all-India jute acreage over the last thirteen years shows that the area under that crop has been fluctuating.

¹ See Table VI, *supra*.

TABLE XI
Probable Area under Jute in Bengal.

1. Calculated all-India jute area (Vide Table VI)	4,067,800 acres
2. Deduct area responsible for increase of stock up-country and proportionate area retained for seed **	306,068 ..
3. Net area	3,761,732 acres
4. Deduct probable area in Bihar (Vide Table VIII)	238,874 ..
,, Assam (Vide Table X)	213,914 ..
,, Orissa (Vide Table IX)	10,680 ..
5. Probable area under jute in Bengal	3,298,264 acres
6. Official (Forecast) estimate for Bengal	2,208,900 ..
7. Official estimate fell short of probable area by	1,080,364 acres
or, it was underestimated by	49.3 %
** Increase of stocks up-country	
(Cf. Table XIII)	895,300 bales
Yield per acre (Cf. Table XVIII)	3.047 ..
Area harvested for fibre	293,731 acres
Add area retained for seed	
• —4.2% of above (Cf. Table XX)	12,337 ..
Total	306,068 acres

tuating, to a greater or lesser degree, from year to year. The period may conveniently be divided into two parts, viz. jute seasons 1926-27 to 1931-32 and 1932-33 to 1937-38. During the first part the area sown with jute tended to decrease, whereas in the second, it increased. It need not be emphasised that weather is an important factor in the regulation of jute sowings from year to year. Rains, both before sowing and after germination, affect the ultimate harvested area. The main consideration, however, appears to be the prices prevailing in the first quarter of the calendar year as well as those of the last quarter of the preceding

year. Information relating to mills' stocks, prices of jute and estimates of acreage sown during the period 1925-26 to 1937-38 are shown in the table below. It will be noticed that, with the exception of a few isolated years, prices and acreage have generally been interrelated. When prices were high—as in 1926, 1929, 1932, 1934 and 1936—they were followed in succeeding years by a marked increase in the estimated acreage. The converse is also true. The graph, based on the index numbers of prices and calculated acreage, demonstrates the extent to which the former influences the latter.

TABLE XII (See page 31).

40. The total available supply of fibre in any one year includes that year's production as well as the stocks up-country and with mills and baling houses. Unfortunately, no official estimates of stocks in the mofussil areas are available, but a few big concerns prepare their own estimates. Though the latter differ from each other, sometimes by wide margins, the averages of stock figures compiled by three firms have been adopted for the purpose of this report in order to show the tendency. The annual changes in the stocks up-country do not appear to be of great magnitude; therefore, in studying the trend of jute acreage, the stocks of mills only have been taken into consideration.

TABLE XIII

Up-country Stocks of Jute.

30th June	Average trade estimates	30th June	Average trade estimates
1931	1,533,000 bales	1936	1,016,000 bales
1932	1,816,000 "	1937	488,000 "
1933	1,450,000 "	1938	1,383,000 "
1934	1,525,000 "	1939	580,000 "
1935	1,283,000 "		

It has been possible to calculate stocks at mills in membership of the Indian Jute Mills Association with a reasonable amount of accuracy. Usually mills carry sufficient jute in stock to last them for about 6 months, and so the effect on prices and future sowings brought about by small stock changes are not so apparent. Prices of jute are governed by several factors, such as the prospects of the coming season's crop, stocks carried by mills

INDEX NUMBERS SHOWING THE INFLUENCE OF JUTE PRICES ON ACREAGE.

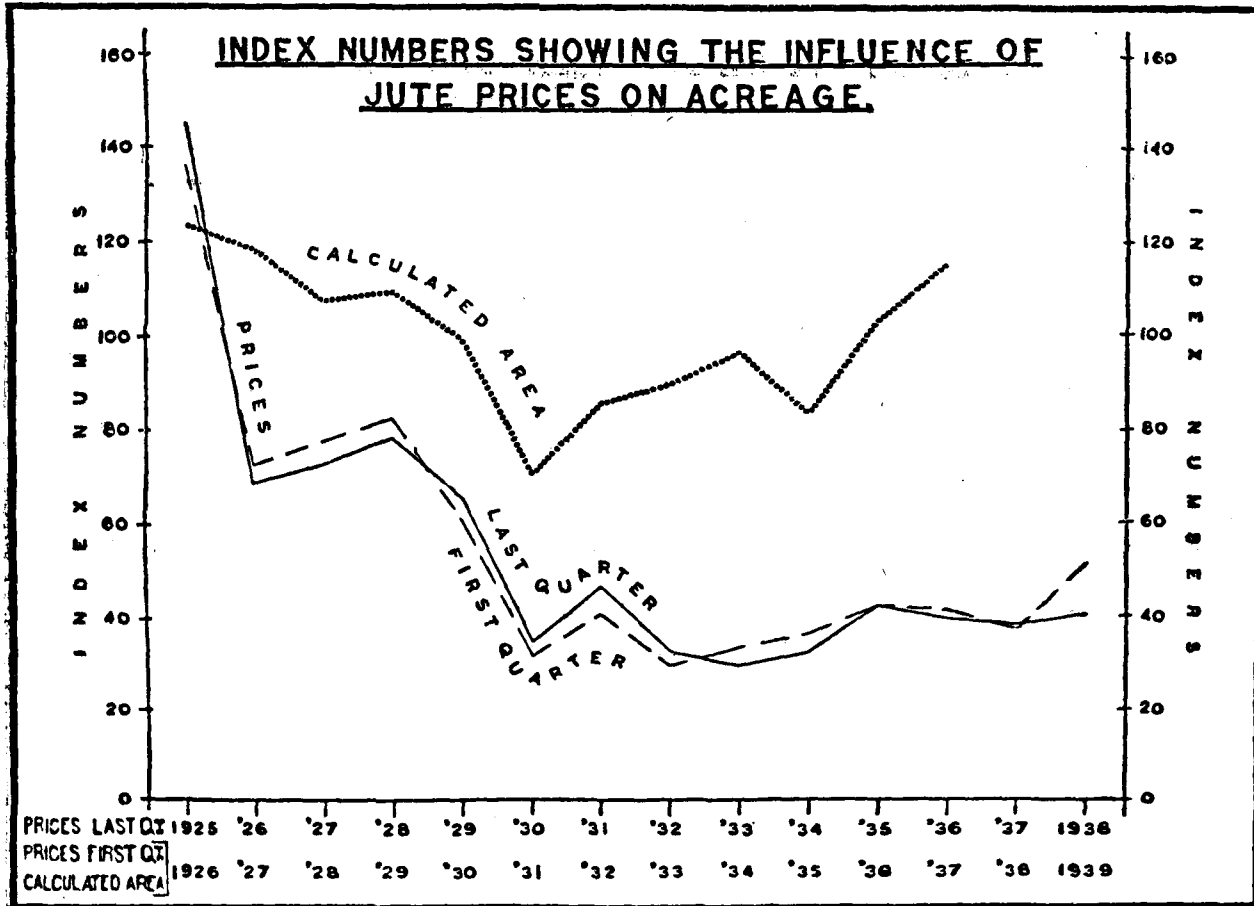


TABLE XII
Stocks, Prices and Calculated Areas of Jute.

Estimated Stocks of Association Mills **			Average Prices for "Firsts" †						Area (calculated from total production) §		
Declared on 30th June	Stocks (Thousand bales)	Index No.	Last quarter.	Rupees per bale.	Index No.	First quarter	Rupees per bale.	Index No.	Season.	Thousand acres	Index No.
				Rs. As.			Rs. As.				
1924	2,290	100	1924	85 10	100	1925	86 6	100	1925-26	3,550	100
1925	1,540	67	1925	123 10	144	1926	116 5	135	1926-27	4,365	123
1926	1,530	67	1926	58 8	68	1927	62 8	72	1927-28	4,192	118
1927	3,650	159	1927	62 0	72	1928	61 10	71	1928-29	3,799	107
1928	4,100	179	1928	66 8	78	1929	71 0	82	1929-30	3,896	109
1929	3,770	164	1929	56 0	65	1930	51 10	60	1930-31	3,535	99
1930	3,480	152	1930	29 10	34	1931	26 12	31	1931-32	2,483	70
1931	5,320	232	1931	39 6	46	1932	34 6	40	1932-33	3,002	85
1932	4,140	180	1932	27 6	32	1933	24 10	29	1933-34	3,159	89
1933	4,640	202	1933	24 9	29	1934	28 8	33	1934-35	3,399	96
1934	4,430	193	1934	27 6	32	1935	31 0	36	1935-36	2,949	83
1935	4,930	215	1935	36 6	42	1936	36 0	42	1936-37	3,647	103
1936	3,940	170	1936	33 6	39	1937	35 0	41	1937-38	4,067	115
1937	3,430	150	1937	33 0	38	1938	32 0	37	1938-39	...	...
1938	2,650	116	1938	34 0	40	1939	44 5	51	1939-40	...	...

** Information supplied by the Indian Jute Mills Association.

† (a) 'Firsts' — the grade of export quality used by the trade as a basis for price quotations.

(b) Price for loose jute have not been quoted owing to the changing standards of grades during the period under review.

(c) Source :—Annual Statistical Review of the Jute Trade, Moran & Co., Ltd., Calcutta.

§ For method of calculation see Table VI, supra.

and balers, world demand, etc., and it is difficult to isolate the results of the working of any one factor independently. The effect of stocks on prices, from year to year, cannot, therefore, be separately traced.

41. Another factor, which recently has had some bearing on the jute acreage of Bengal, was a voluntary restriction scheme. In 1935, with a view to stabilise jute prices, the Government of Bengal decided to undertake propaganda for the voluntary restriction of jute sowings to 11 annas of the 1934-35 crop. According to the forecast estimates, the jute area in Bengal was 2,321,000 and 1,899,000 acres in 1934-35 and 1935-36 respectively, i.e. a decrease of 18 per cent. in the second year. But, judged in the light of the calculated acreages, the reduction of jute area in 1935-36 actually amounts to 13.3 per cent. only—3,399,000 acres in 1934-35 and 2,949,000 acres in 1935-36. The decrease in the Bengal jute area was the combined result of low prices, adverse weather conditions at the time of sowings and, perhaps to some extent, the restriction propaganda of the provincial Government. It is not possible, however, to state the extent to which these factors were individually responsible for the reduced estimated acreage. The smaller jute acreage was followed by a slight improvement in prices. But, it is important to note that although the voluntary restriction scheme has been in operation every year since its inception in 1935, the forecast acreage of jute in Bengal has nevertheless increased since 1936-37.¹

As the first step towards the stabilisation of the production of jute, the Government of Bengal carried out the registration of all the jute holdings in the province in the last quarter of 1939, the results of which have not yet been published. However, owing to the European War, the prices of raw jute appreciated, and it became evident that there was every possibility of growers devoting more acreage to jute in the new season, thereby greatly increasing the supply of the fibre and causing a fall in prices which would in all likelihood affect the growers adversely. In order to check this tendency, the Government promulgated an Ordinance on the 10th of February 1940, compulsorily restricting the sowings of 1940-41 to the 1939-40 acreage. But, as the data collected of last year's acreage was not completely satisfactory, the Government later decided not to enforce compulsory restriction in 1940, and withdrew the Ordinance on 29th February. Early in March, however, the Bengal Legislative Assembly passed "The Jute Regulation Bill", a measure authorising the Government to undertake the registration and regulation of the jute sowings if and when necessary.

42. A close study of the acreages during the last 14 years, shows that when prices reach a low level the growers do reduce the area under jute; but, if low prices continue for a few seasons, they are prone to consider the prevailing conditions as normal and thus put more land under that crop. In 1931-32 and 1932-33, during the world economic depression, the calculated estimates of the all-India jute acreage amounted respectively to about 70 and 85 per cent. of the 1930-31 jute area. But in 1933-34 and 1934-35, in spite of very low prices more land was sown with jute. This attitude of the growers may partly be attributed to the lack of an equally remunerative alternative cash crop. The severe fluctuations in the jute acreage is a disturbing factor. Although the record calculated acreages of 1926-27 and 1927-28 have not occurred again, the area under jute has once more been increasing since 1935-36. It may be pointed out that the prices were not as favourable during the seasons 1935-36, 1936-37 and 1937-38 as in 1938-39. It is probable, therefore, that the present favourable prices will give an impetus to large sowings in the following seasons.¹

C. VARIETIES

1. DESCRIPTION.

43. There are several species of which *Capsularis* and *Olitorius* are cultivated, as they are the only two of any real commercial importance. Experiments have been made continuously by the Department of Agriculture, Bengal, to improve the varieties of these two species of jute. As a result, from *C. capsularis* a strain was evolved called *Kakya Bombai*, from which a selection was later made and named D.154. Similarly, a strain called "Chinsurah Green" has been evolved from *C. olitorius*. These improved types have become popular with the growers. According to the calculations of the Department of Agriculture, Bengal, 1,301,444 acres were under improved jute seeds in 1936-37 and 1,763,747 acres in 1937-38, which

¹ It is not possible to work out the correct jute acreage from the calculated production of jute in 1939-40, as the results of the crop-cutting experiments on that year's crop are not yet available. Following the outbreak of the European War, considerably higher prices have been prevailing since September 1939, and it is expected that more land will be sown with jute in 1940 than was done in the previous year.

represented about 58 and 80 per cent. of the Bengal jute area (revised forecast figures) in the respective year.¹ The following local names are commonly used for the two varieties of jute.

TABLE XIV
*Local Names of Jute.***

Variety	Popular Names	Localities where used	
C. capsularis	Deshi } Suti }	East Bengal and Assam	
	Sada } Japani } Deshi } Jati } Tebri }	North Bengal	
	Dacca } Sada } Japani } Daisee } Lalli }	Purnea (Bihar)	
	Pita Nalita	Orissa	
	C. olitorius	Bogi	East Bengal and Assam
		Deonallya	Dacca and Mymensingh
		Tosha } Kuchani }	North Bengal
		Sonapat } Munyashi }	Purnea (Bihar)
		Nali Nalita	Orissa
		Lalli } pinkish grey fibre Sada } light " " Shamla } dark " "	Daisee districts of West Bengal

** In Calcutta, the trade terms used for Capsularis and Olitorius are White and Tossa respectively. The Olitorius variety from West Bengal is called Daisee.

2. DISTINGUISHING FEATURES.

44. (i) Although it has nothing to do with the ultimate colour of the fibre, the colour of the stem of *C. capsularis* is either light green or purple, while that of *C. olitorius* is light green or pink. The purple

¹ It was subsequently reported that the area under improved varieties was 1,157,337 acres in 1938-39, i. e. about 46 per cent. of the year's estimated jute acreage of Bengal.

coloured *Capsularis* is more extensively grown in Northern Bengal, but the light green type is grown everywhere.

- (ii) Leaves of *Capsularis* taste bitter while those of *Olitorius* are tasteless, and the two varieties are referred to by growers as *tecta pat* and *mitha pat* respectively.
- (iii) The fruit of *Capsularis* is a round capsule while that of *Olitorius* is a cylindrical pod. Seeds of the former are oval in shape and deep brown in colour, those of the latter are pyramid shaped and bluish in colour.¹
- (iv) The fibre of *Capsularis* is ordinarily white. *Olitorius*, however, is grown on high-lands where running water is not usually available for retting, and it has to be steeped in stagnant water. Its colour, therefore, is either white, yellowish, pinkish or blackish depending on the stagnancy of the water used.
- (v) Lastly, the fibre of *Olitorius* is frequently finer than that of *Capsularis* and is also softer and stronger.²

3. FACTORS OF CULTIVATION.

45. *Capsularis* thrives equally well both on high and low lands. On the other hand, *Olitorius* cannot thrive under water logged conditions and is, therefore, grown on high lands only. *Capsularis* has to be sown early—from mid February to mid March—in low lands so that the plants may grow to a sufficient height before the annual rise of the rivers. Early sowing is possible only in *bheels* (swamps) and on low river banks where the soil remains sufficiently moist for germination. Sowings of *Capsularis* in medium lands is normally undertaken from mid March to the end of April, and when it is cultivated on high lands sowings take place still later. The sowings of *Olitorius* are carried out from April until the middle of May. The former is harvested from mid June to August and the latter in August and September according to the time of sowing and the type of land on which each is grown. *Capsularis* is a hardier plant and is not much affected by deficient or excessive rainfall. Its growth may be retarded for a while under adverse conditions, but it starts growing again when favour-

¹ Cf. Ch. IX, Sec. B, *infra*.

² Cf. Ch. V, Sec. A, *infra*. ✓

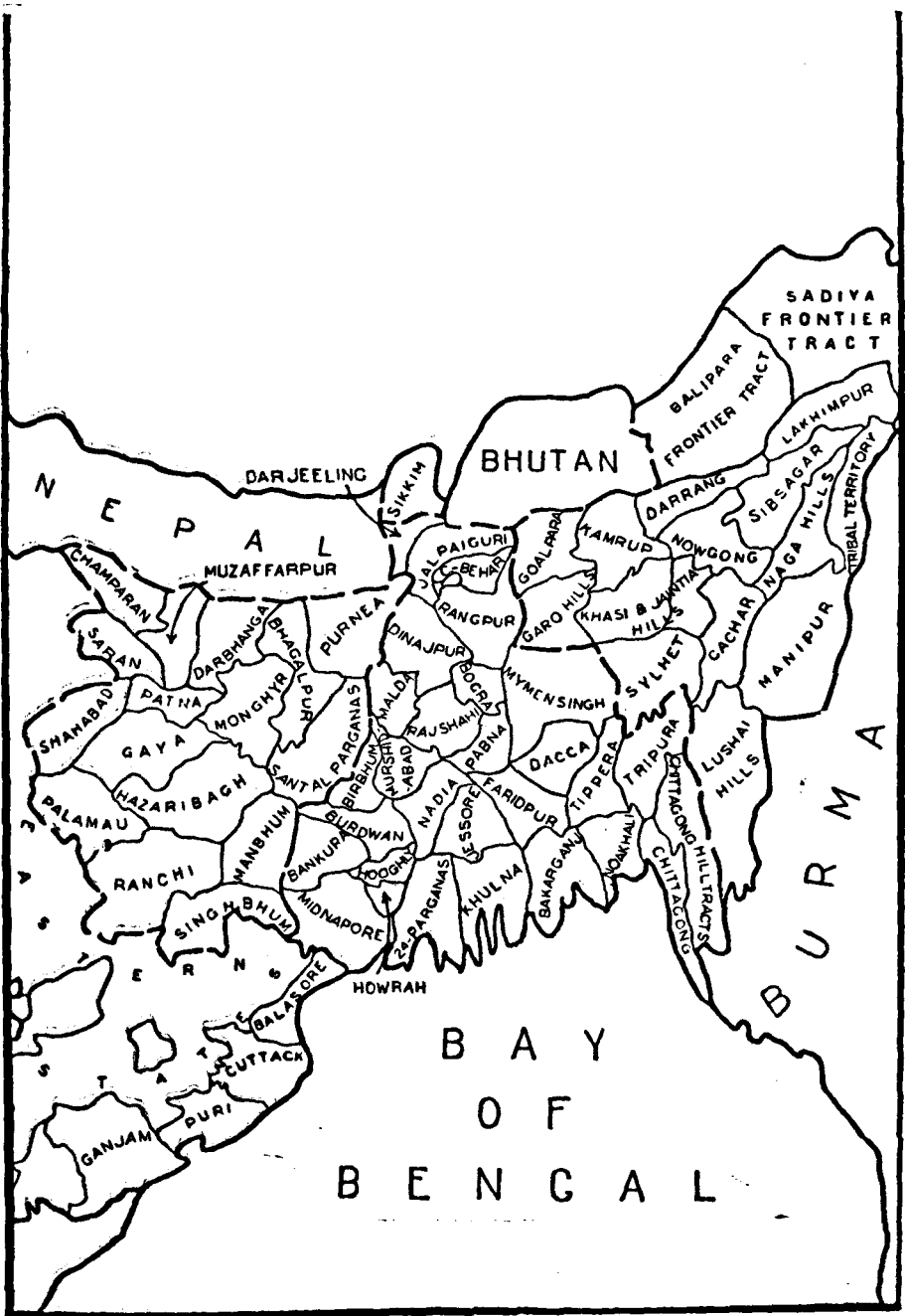
able weather sets in. Olitorius, on the other hand, is more susceptible to damage both by drought and flood. During July and August, Capsularis can favourably withstand 25 to 30 inches of rainfall, while Olitorius cannot well stand more than 15 to 20 inches of rain unless the land is well drained.

4. ACREAGE UNDER EACH VARIETY.

46. Capsularis is more commonly grown in East and North Bengal, Bihar and Assam, whereas Olitorius predominates in West Bengal—*e.g.* in the districts of Khulna, Jessore, Nadia, 24 Parganas and Hooghly. The latter variety is also important in the Rajshahi and Pabna districts of North Bengal. Table XV (opposite) shows the proportions of the two varieties as calculated from the results of the Marketing Enquiry. It will be noticed that the major portions of the jute tracts in the various provinces are sown with the Capsularis variety, probably because—

- (i) all types of land suit its cultivation. As has been said before, it thrives both on high and low lands, so there is a general tendency to grow this particular type without much consideration being given to other factors of cultivation.
- (ii) Again, as pointed out above, Capsularis can stand the vagaries of weather better than Olitorius. Insect attacks usually take place in the months of June, July and August, *i.e.* after the monsoon has set in. Capsularis plants, having grown sufficiently by that time, can withstand insect pests better than those of Olitorius which are usually less developed during those months.
- (iii) As Capsularis is an early crop, it is possible for growers, especially in Eastern Bengal, to transplant paddy to the same land after the jute crop is harvested in the months of June and July. If such areas do not remain submerged by flood water after August, or September, even a third crop, such as pulses or mustard, may follow transplanted paddy. Olitorius, however, can be followed by a *rabi* crop only, hence enterprising growers prefer Capsularis.

According to the Marketing Enquiry, 74.5 per cent. of the all-India jute acreage in 1937-38 was under Capsularis and 25.5 per cent. under Olitorius. The provincial average of the two varieties are given below,



DISTRIBUTION BY VARIETIES.

● REPRESENTS 5,000 ACRES—CAPSULARIS
▲ " " " " —OLITORIUS

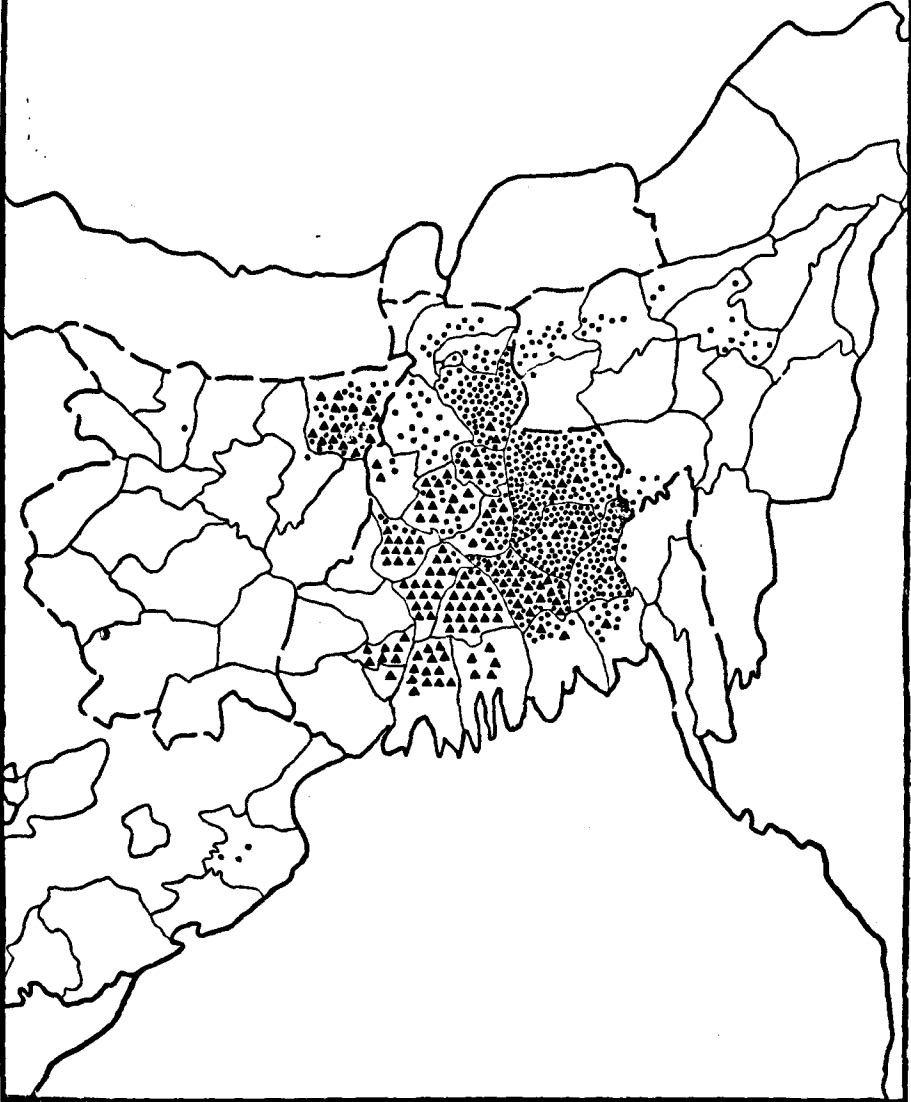


TABLE XV
Proportions and Yields of Capsularis and Olitorius
(as reported by witnesses)

District	Number of growers interrogated	Area reported sown by these growers		Percentage of area under		Outturn reported by these growers		Average Yield (in maunds per acre)		
		Capsularis	Olitorius	Capsularis	Olitorius	Capsularis	Olitorius	Capsularis	Olitorius	General
Bengal		Acres	Acres			Maunds	Maunds			
24 Parganas	211	—	174	—	100.0	—	1,698	—	9.78	9.78
Nadia	113	15	121	10.7	89.3	170	1,063	11.67	8.77	9.08
Murshidabad	98	54	110	32.9	67.1	329	675	6.10	6.10	6.10 *
Jessore	201	48	242	16.6	83.4	743	2,904	15.37	11.99	12.55
Khulna	55	—	55	—	100.0	—	543	—	9.82	9.82
Hooghly	155	—	187	—	100.0	—	2,075	—	11.11	11.11
Rajshahi	237	251	254	49.6	50.4	2,887	2,995	11.52	11.74	11.63
Dinajpur	169	175	3	98.7	1.3	1,595	28	9.09	11.29	9.12
Jalpaiguri	157	160	—	100.0	—	1,568	—	9.77	—	9.77
Rangpur	675	809	45	94.8	5.2	9,649	621	11.96	13.95	12.02
Bogra	211	217	105	67.4	32.6	2,498	1,135	11.52	10.81	11.29
Pabna	393	467	246	65.5	34.5	5,441	2,316	11.64	9.41	10.87
Malda	61	66	46	58.7	41.3	537	378	8.14	8.14	8.14
Dacca	451	758	27	96.6	3.4	13,173	591	17.37	21.86	17.53
Mymensingh	381	695	49	93.6	6.4	7,458	432	10.75	9.07	10.64
Faridpur	434	503	287	63.7	36.3	7,197	3,247	14.29	11.31	13.21
Bakarganj	190	212	42	83.3	16.7	1,217	315	5.75	7.43	6.03
Tippera	404	584	8	98.6	1.4	9,954	171	17.04	20.55	17.95
Noakhali	84	91	6	93.3	6.7	1,333	102	14.70	15.50	14.80
Tripura State	65	48	10	81.9	18.1	655	140	13.63	13.25	13.56
Bihar										
Purnea	147	234	161	59.4	40.6	2,111	1,243	9.02	7.75	8.50
Assam										
‡ Sylhet	290	238	—	100.0	—	3,575	—	15.02	—	15.02
Goalpara	217	314	1	99.7	0.3	2,882	8	9.20	7.50	9.18
Kamrup	62	105	5	95.9	4.1	1,789	35	16.91	7.87	16.53
Nowgong	186	345	12	96.6	3.4	4,464	141	12.93	11.46	12.88
Orissa	25	37	2	94.0	6.0	381	6	10.43	2.40	8.95
Total	5,672	6,426	2,198	Average 74.5	Average 25.5	Total 81,606	Total 22,862	Average † 12.70	Average † 10.40	Average 12.11

* This yield appears to be very low, and may be due to growers understating their outturn. The yield calculated from the turnover of the local secondary markets in 1937-38 was, however, 10.3 mds. per acre, which seems to be more correct, and has been adopted for subsequent calculations.

† These figures should not be regarded as conclusive in view of the explanation given towards the end of paragraph 46.

Source—Marketing Enquiry.

TABLE XVI.

Provinces	Capsularis	Olitorius
Bengal ...	71.9	28.1
Assam ...	98.3	1.7
Bihar ...	59.4	40.6
Orissa ...	94.0	6.0
All-India ...	74.5	25.5

It appears from the averages shown in Table XV above, that, in 1937-38, the cultivators questioned during the Marketing Enquiry obtained a higher yield from Capsularis—12.7 mds. per acre—than from Olitorius—10.4 mds. Those figures, however, should not be treated as conclusive evidence on the point, mainly because the results of experiments, conducted at several Government Farms in Bengal, do not prove definitely which of the two varieties of jute gives a greater yield. The average yields per acre from such experiments are given below (in maunds).¹

	1934-35	1935-36	1936-37	1937-38	1958-39
D. 154(Capsularis):	23.0	15.1	25.0	21.0	14.5
C. Green (Olitorius):	22.4	23.9	21.2	21.0	18.3

D. YIELD PER ACRE

For the purposes of the present study, four kinds of yield figures are available.

1. MARKETING ENQUIRY FIGURES.

47. The Marketing Enquiry, entailing the survey of rural areas and markets—some results of which are included in Table XV—was conducted under certain handicaps. The main difficulty was that the cultivators in many places misinterpreted the object of the Enquiry. The efforts of the Marketing Officers to collect data on such questions as the extent of land sown with jute, the yield per unit, the total outturn, the sale price of fibre, etc., was undoubtedly a novel experience for the growers, who naturally became suspicious and attributed the enquiry either to the furtherance of Jute Restriction propaganda, or to matters connected with the Debt Settlement Boards. It is not surprising, therefore, that the growers of Bengal, as well as of the neighbouring districts of Assam and Bihar, were reticent in their answers and often

¹ Cf. Review of Agricultural Investigations in India,

reported reduced outturns. This attitude of the growers was probably responsible for the average yield per acre, according to enquiry figures, being exceptionally low in some districts. A few examples of the widest discrepancies between the enquiry and crop-cutting yields per acre are given in below. In view of

TABLE XVII
Enquiry and Crop-cutting Yields per Acre in 1937-38.

Name of district.	Marketing Enquiry.	Crop-cutting experiments.
24 Parganas ...	9.78 mds.	14.71 mds.
Nadia ...	9.08 "	15.41 "
Dinajpur ...	9.12 "	15.50 "
Rangpur ...	12.02 "	18.12 "
Pabna ...	10.87 "	17.59 "
Bakarganj ...	6.03 "	12.29 "

the great difference between the two sets of figures and the general soundness of crop-cutting yields per acre, discussed later, it does not seem reasonable to adopt the enquiry figures. Moreover, the general average yield per acre for 1937-38 according to enquiry figures was 12.11 mds. as against 14.80 mds. of the crop-cutting experiments.¹ If the former be accepted, the outturn of fibre on the basis of forecast acreage would fall far short of the actual arrivals. This, further confirms the conclusion that the enquiry figures for yield per acre are much too low.

2. COST OF PRODUCTION ENQUIRY FIGURES.²

48. In 1932, the Imperial Council of Agricultural Research instituted an enquiry into the cost of production of crops in the principal sugarcane and cotton growing tracts of India. In that connection, enquiries were also made into the cultivation of jute in Bengal over three seasons, 1934-35 to 1936-37, which were conducted in the districts of Rajshahi and Bogra. The average yield per acre was found to be 12.60 mds. for Rajshahi and 12.41 mds. for Bogra. As these figures are the results of yields and sales recorded after careful investigation by the special staff posted in the districts for the purpose of the enquiry, and because

¹ Cf. Table XVIII.

² Report on "The Cost of Production of Crops in the Principal Sugarcane and Cotton Tracts in India" (Imperial Council of Agricultural Research), Vol. VI, Bengal, 1933.

of the representative character of the jute fields selected for the purpose, they may be accepted as reasonably correct. The crop-cutting experiments conducted by the Department of Agriculture, Bengal, in the two districts, during the quinquennium 1932-33 to 1936-37, resulted in an average yield of 13.12 mds., per acre for Rajshahi and 16.03 mds. for Bogra.¹ Whereas the difference between the figures for Rajshahi is only .53 mds., it is 3.62 mds. in the case of Bogra. Thus, it is not possible to establish any relation between the two sets of figures and to work out a correction factor which could be applied to the results of crop-cutting experiments of other districts and so arrive at correct yield figures for all areas. Nor would it be right to apply the cost of production enquiry figures for the two districts to all the jute growing tracts as the weather and soil conditions vary. The utility of these figures is, therefore, confined to the two districts of Rajshahi and Bogra only; they cannot be adopted for the purpose of calculating the outturn of jute in other districts.

3. CROP-CUTTING EXPERIMENTS.

49. A normal crop may be defined as "that crop which past experience has shown to be the most generally recurring crop in a series of years." Briefly, it is stated to be "the average yield, on average soil, in a year of average character."² Agricultural departments maintain statements of normal yields per acre, for several crops in each district. In order to test the accuracy of these standard or normal yields, and to revise them if necessary, a system of crop-cutting experiments is in force in almost all the provinces. These are carried out every year in various districts in accordance with the rules especially framed by the various provincial authorities. Under this system, plots of average quality are selected, and the crops grown on them cut and weighed, in the presence of responsible officers. During 1932-33 to 1936-37 a total number of 3,371 crop-cutting experiments were carried out in the case of the jute crop in Bengal. Similarly, 733 experiments were made in 1937-38. The large number of these experiments, and the care exercised in conducting them, impart a representative character to the average yields obtained from crop cutting experiments.

4. FINAL FORECAST FIGURES.

50. The Final Forecasts are intended primarily for the

¹ Cf. Table XVIII,

² *Vide* Estimates of Area and Yield of Principal Crops in India.

TABLE XVIII.
Comparative Yields per Acre
(in maunds of 82½ lbs.)

District.	Cost of Production Enquiry figures †	Marketing Enquiry figures 1937-38	Crop-cutting Experiments		Final Forecast 1937-38
	Average 1934-35 to 1936-37		Average 1932-33 to 1936-37	1937-38	
24 Parganas		9.78	17.59	14.71	16.18
Nadia		9.08	13.85	15.41	13.95
Murshidabad		6.10 **	14.53	13.85	14.77
Jessore		12.55	16.71	13.80	12.44
Khulna		9.82	14.96	14.63	17.74
Hooghly		11.11	16.42	14.34	15.55
Rajshahi	12.60	11.63	13.12	14.82	13.56
Dinajpur		9.12	16.62	15.50	15.55
Jalpaiguri		9.77	15.21	14.29	12.24
Rangpur		12.02	13.41	18.12	16.67
Bogra	12.41	11.29	16.03	14.59	14.58
Pabna		10.87	15.45	17.59	15.03
Malda		8.14	14.48	14.05	14.96
Dacca		17.53	15.35	17.25	17.06
Mymensingh		10.64	16.81	12.88	14.35
Faridpur		13.21	14.82	15.02	17.49
Bakargunj		6.03	14.87	12.29	14.34
Tippera		17.95	15.11	15.27	17.15
Noakhali		14.80	14.33	13.71	17.06
Tripura State		13.56	...	...	10.80
Purnea		8.50	{ 14.23	{ 13.85	{ 9.72
Orissa		9.95	{ 14.23	{ 13.85	{ 9.96
Sylhet		15.02	{ 15.09	{ 14.70	{ 13.43
Goalpara		9.18	{	{	{ 16.13
Kamrup		16.53	{	{	{ 14.09
Nowgong		12.88	{	{	{ 13.80
Average (mds.)	12.5	12.11	15.33	14.80	14.41
„ (bales)	2.572	2.491	3.154	3.047	2.996

† *Vide* Report on "The Cost of Production of Crops in the Principal Sugarcane and Cotton Tracts in India" op. cit.

** This yield appears to be very low, and may be due to growers understating their outturn. The yield calculated from the turnover of the local secondary markets in 1937-38 was, however, 10.3 mds. per acre, which seems to be more correct and has, therefore, been adopted for future calculations.

§ As no crop-cutting figures were available for Bihar, Orissa and Assam, the crop-cutting results of Bengal, modified in the proportions of their respective standard yields, were adopted for the three provinces.

publication of the estimated outturn of jute in each district.¹ For the purpose of calculating these amounts, the normal or standard yields, as modified by the results of crop-cutting experiments and by the season and crop reports of agricultural officers, are adopted. The final figures are, however, decided upon after the examination of the crop conditions in important jute growing areas, by responsible agricultural and executive officers. These are not shown separately in the Final Forecasts, but may be worked out from the estimated acreage and outturn for each district.

51. The above table has been condensed in order that a comparison may be made between the various types of yield figures. Comparison will show that in 1937-38, the forecast yields for many districts of Bengal were higher than the average crop

TABLE XIX
Provincial Yields per Acre (in maunds).

Name of Province	Standard yield	Crop-cutting experiment results 1937-38	Final Forecast yield 1937-38	Marketing Enquiry yield 1937-38.
BENGAL.				
Dacca & Chittagong Divisions ...	17.96	14.37	16.24	13.36
Rajshahi Division ...	17.01	15.55	14.65	10.40
Presidency & Burdwan Divisions ...	15.55	15.44	15.10	10.44 §
AVERAGE ...	16.90	15.03	15.64	12.24
ASSAM ...	17.01	14.70**	14.31	13.40
BIHAR ...	16.18	13.85**	9.72	8.50
ORISSA ...	16.18	13.85**	9.96	9.94

§ See Table XVIII, footnote, regarding Murshidabad,

** Based on the Bengal crop-cutting results for 1937-38 and modified according to the provincial standards of yield,

cutting yields, the respective provincial averages being 15.6 and 15.0 mds. per acre. It is not clear why the forecast yields should be greater than the crop-cutting yields. The plants on which the

¹ For details of statistics included in the Final Forecasts, see Section G. 1 below.

experiments are undertaken having grown under certain weather conditions, it seems unnecessary to introduce the seasonal condition factor. It is also doubtful whether the personal observations of the executive and agricultural officers justify modification of the crop-cutting results. In some instances, the forecast yields were lower than the crop-cutting yields, which probably was due to the fact that instead of deducting the abandoned acreage from the area sown and thus showing the net harvested area in the annual forecast, the yields obtained from the crop-cutting experiments were reduced proportionately and the resulting amounts were adopted as forecast yields for calculating the outturn estimates. This method cannot be considered satisfactory. What might be done is to show separately in the forecasts the details of sown and harvested areas and to adopt the crop-cutting results as the final yields for the purpose of calculating the district and provincial outturns of jute. In the present circumstances, therefore, it appears that the forecast yields cannot be regarded as correct. Consequently, the crop-cutting experiment results must be considered the most accurate yield figures available. It should be pointed out, however, that the results of the experiments undertaken in Bengal on *Capsularis* and *Olotorius* are not published separately, and that crop-cutting yields for Bihar, Orissa and Assam are not available. Hence, the results of the Bengal experiments as modified on the basis of the respective standard yields may be accepted for the latter three provinces. The general average yield for the 1937-38 crop, according to the results of the Bengal crop-cutting experiments and the calculations necessary for Bihar, Orissa and Assam, amounts to 14.8 mds. per acre. This figure has been adopted for the purposes of this report.

E. LAND RETAINED FOR SEED

52. The growers generally utilise a part of their crop for seed production. The factors governing the proportion of crop so retained, depend on the suitability of land for seed production and the quantity of seed required for sowing one unit of area. The lands suitable for seed production are the highlands and midlands. Low lying areas are not used for this purpose to any great extent as the plants are liable to damage by flood. It is for this reason that the low lying tracts contain a smaller percentage of area retained for seed. Ordinarily, only such

(as reported by witnesses)

District	Scope of enquiry			Land for seed		Fibre for domestic use	
	Number of growers interrogated	Area sown (acres)	Outturn (maunds)	Area retained (acres)	Percentage to sown area	Amount retained (maunds)	Percentage to outturn
Bengal							
24 Parganas	211	174	1,698	8.7	5.0	102	6.0
Nadia	113	136	2,233	6.9	5.1	74	6.0
Murshidabad	93	164	1,004	4.1	2.5	103	10.2
Jessore	201	290	3,647	14.4	4.9	109	3.0
Khulna	55	55	543	2.7	4.9	27	5.0
Hooghly	155	187	2,075	18.6	9.9	208	10.0
Rajsbahi	237	505	5,882	12.3	2.4	177	3.0
Dinajpur	169	178	1,623	7.6	4.3	154	9.5
Jalpaiguri	157	160	1,568	8.7	5.4	121	7.7
Rangpur	675	854	10,270	48.3	5.7	440	4.3
Bogra	211	322	3,633	11.1	3.4	89	2.5
Pabna	393	713	7,757	21.4	3.0	175	2.3
Malda	61	112	915	4.2	3.8	44	4.8
Dacca	451	785	13,764	22.8	2.9	269	1.9
Mymensingh	381	744	7,890	40.3	5.4	200	2.5
Faridpur	434	790	10,444	18.7	2.4	229	2.2
Bakarganj	190	254	1,532	14.6	5.7	46	3.0
Tippera	404	592	10,125	24.1	4.1	174	1.7
Noakhali	84	97	1,435	5.1	5.3	32	2.2
Tripura State	65	58	795	1.2	2.1	21	2.6
Bihar							
Purnea	147	395	3,354	13.7	3.5	207	6.2
Assam							
Sylhet	290	238	3,575	7.6	3.2	120	3.4
Goalpara	217	315	2,890	16.3	5.2	149	5.2
Kamrum	62	110	1,824	6.4	5.8	48	2.6
Nowgong	186	357	4,605	9.3	2.6	123	2.7
Orissa	25	39	387	1.9	4.9	12	3.1
Total	5,672	8,624	104,468	351.0	(average) 4.1	3,451	(average) 3.3

Source—Marketing Enquiry.

area is retained by each grower as will yield enough seed for his own requirements, the surplus, if any, being sold in villages and *hats*. But some cultivators, particularly those whose lands are suitable for seed production, retain areas far in excess of their individual requirements with the object of selling the surplus elsewhere. For the purpose of a general comparison, averages of the areas retained for seed in various jute growing tracts have been worked out on the basis of the results of the Marketing Enquiry.

East Bengal	...	...	...	3.5 per cent.
North Bengal	...	...	...	4.5 "
Daisee districts of Bengal	...	...	...	5.0 "
Bihar	...	...	...	3.5 "
Assam	...	...	...	4.0 "
Orissa	...	...	...	5.0 "

Variations are due either to the type of land or the seed rate per acre. For instance, a great part of the land in East Bengal and Assam is inundated by flood every year, consequently less land is utilised for seed production. In North Bengal and the Daisee districts, however, land is suitable for seed production, so a greater percentage of area is utilised for this purpose. In Bihar, the land is suitable for seed production, but the low percentage of area retained for this purpose is due to the use of comparatively less seed per acre.¹ According to the Enquiry, the average area retained for seed was 4.1 per cent. of the total acreage under jute. Detailed figures per district are given in Table XX.

F. FIBRE FOR VILLAGE CONSUMPTION

53. The quantity of fibre consumed in villages has declined considerably since the introduction of power-driven machinery for the manufacture of jute cloth. Up to the middle of the nineteenth century, the weaving of jute cloth on hand-looms was a thriving cottage industry in Bengal, and traces of it are still to be found in a few districts where the weaving of jute mats and coarse bags is a spare time occupation of the people. This activity, however, is now of little commercial importance. The consumption of jute in villages is mainly restricted to rope and string making, and the quantity of fibre thus consumed forms a very small percentage of the total outturn of jute. The results

¹ Cf. Ch. IX, *infra*.

of the Enquiry show that less fibre was required in low lying areas liable to inundation by annual floods, and more was consumed locally in the comparatively drier tracts. For instance, the average amount of fibre retained in East Bengal was 2.1 per cent. of the crop, whereas it was 4.2 per cent. in North Bengal, and 6.1 per cent. in West Bengal and Bihar. The general average of the fibre retained for domestic purposes was 3.3 per cent. of the total production.¹

G. PRODUCTION

1. PREPARATION OF OUTTURN ESTIMATES.

54. While the preliminary forecast is primarily an estimate of acreage,² the final forecast is essentially an estimate of production according to districts and provinces. These outturn estimates, are based on actual crop-cutting experiments carried out in each district under the supervision of the Collector. The district averages of the crop-cutting experiments, as modified in the light of actual yields obtained by the local growers and the damage, if any, caused to the crop, are used for calculating the outturn of the district. It is customary for the Director of Agriculture to undertake a tour of the principal jute areas a few weeks before the publication of the final forecast. After seeing the condition of the crop, and exchanging views with the local executive officers and those of his own department, he is in a position to form a definite opinion regarding the prospects of the crop. The outturn estimates are ultimately settled after discussions between the Director and the Collectors, and are published in the form of a final forecast by the 21st of September every year. The forecast contains the following information.

- (i) Names of districts,
- (ii) Estimated area under jute in the previous and current years (previous year's figures are generally revised in the following year),
- (iii) Estimated outturn as a percentage of the normal yield per unit of area during the previous and current years,
- (iv) Estimated total outturn for the two years—previous and current,
- (v) Date of the commencement of harvesting, and
- (vi) Remarks by District Officers.

¹ for details, see Table XX, *supra*.

² Cf. Sec. B 2, *supra*.

55. These somewhat elaborate arrangements have not given very satisfactory results as is shown by the fact that the actual arrivals of jute have generally exceeded the forecast outturn estimates, in 1938-39, for example, by as much as 31.9 per cent. Once only, in 1930-31, did the forecast estimates exceed actual arrivals into Calcutta by about 8 per cent.

TABLE XXI

Production of Jute and Arrivals into Calcutta.
(000 bales of 400 lbs. each)

Jute Year ¹	Estimated Outturn ²	Imports into Calcutta & Mills ³	Difference	
			Actual (c) - (b)	Percentage (d) to (b)
(a)	(b)	(c)	(d)	(e)
1928-29	9,931	10,794	+ 863	8.7
1929-30	10,360	10,613	+ 253	2.4
1930-31	11,230	10,327	- 903	8.0
1931-32	5,567	6,580	+ 1,013	18.2
1932-33	7,097	8,839	+ 1,742	24.5
1933-34	8,012	8,947	+ 935	11.7
1934-35	8,525	9,823	+ 1,298	15.2
1935-36	7,240	8,271	+ 1,031	14.2
1936-37	9,636	10,818	+ 1,182	12.3
1937-38	8,680	10,068	+ 1,388	16.0
Average	8,628	9,508	+ 880	10.2
1938-39	6,844	9,027	+ 2,183	31.9

¹ 1st July to 30th June.

² *Vide* Annual Jute Forecasts (Revised Estimates).

³ As published by the Bengal Chamber of Commerce, Calcutta, with 2% added for road arrivals.

2. CALCULATED PRODUCTION.

56. The forecast estimates of outturn being inaccurate, an attempt is made below to calculate the total crop of 1937-38 on the basis of the actual arrivals of jute at various centres, the internal consumption and the stocks upcountry. This process may be taken a step further, and the jute production for the previous seven years may similarly be calculated to provide comparison with forecast estimates. It will be noted in XXIII table that the errors of underestimation of forecast returns range from 16.5 to 37.0 per cent.

TABLE XXII
Calculated Production of Jute for 1937-38.
 (bales of 400 lbs. each)

1. Imports into Calcutta & mills (a)		10,068,000
2. Exports from Chittagong (b)		
	Abroad	191,000
	Madras	42,000
		233,000
3. Consumption by Bihar mills (c)		191,000
4. Direct exports from jute producing provinces to rest of India (d)		145,000
5. Domestic consumption of jute producing provinces (e)		363,000
		11,000,000
6. Calculated production		11,000,000
7. Change of stock upcountry (f)		+ 895,000
		11,895,000
8. Total production		11,895,000
		8,680,500
9. Revised forecast estimates (1937-38)		8,680,500

Sources:—(a) Bengal Chamber of Commerce figures with 2% added for road arrivals.

(b) Administration Report for the Port of Chittagong 1937-38* (It includes Foreign and Coastal trade).

(c) Calculated on known loomage.

(d) Accounts relating to the Inland Rail & River-borne Trade of India. (It includes U.P., C.P., & Madras Mills).

(e) Marketing Enquiry Figures (*Vide*, Section F supra).¹

(f) There was an increase of stock up-country with cultivators and dealers as calculated from the trade estimates of reputable Firms *Vide* Table XIII.

3. TREND OF PRODUCTION.

57. Finally, attention may drawn to the fact that during the period 1932-33 to 1937-38, the highest calculated area under jute was 4,067,800 acres in 1937-38, the largest calculated outturn being 11,895,000 bales in the same season (Table XXIII). It will be seen from Table XXIV—showing the average yields per acre as obtained from the crop-cutting experiments in Bengal during 1927-28 to 1937-38—that the last quinquennium has not favoured the production of jute in Bengal.¹

¹ Yield figures for 1938-39 and 1939-40 are not available.

TABLE XXIII
Forecast and Calculated Production of Jute
(000 bales of 400 lbs. each).

Jute year (July to June)	Forecast estimates (Revised)	Calculated estimates	Difference	
			Actual (c)-(b)	Percentage (d) to (b)
(a)	(b)	(c)	(d)	(e)
1932-33	7,097	8,996	+ 1,899	26.8
1933-34	8,012	9,730	+ 1,718	21.4
1934-35	8,525	10,366	+ 1,841	21.6
1935-36	7,240	8,627	+ 1,387	19.2
1936-37	9,816	11,225	+ 1,589	16.5
1937-38	8,680	11,895	+ 3,215	37.0
Average	8,198	10,140	1,942	23.7
1938-39	6,844	9,092	2,248	32.8

TABLE XXIV.

Year	Yield per acre.
1927-28	3.727 bales
1928-29	3.674 "
1929-30	3.623 "
1930-31	3.387 "
1931-32	3.692 "
1932-33	3.148 "
1933-34	3.234 "
1934-35	3.199 "
1935-36	3.069 "
1936-37	3.255 "
1937-38	3.092 "
Average	3.373 "

If in any year, the calculated acreage of 1937-38 is repeated and the weather conditions are favourable enough to give an average yield of 3.37 bales per acre, a total crop of 13,721,000 bales may be produced. It may, therefore, be concluded that, should the demand arise and attractive prices and fairly good weather prevail, 14 to 15 million bales or more of jute may be raised in India.

CHAPTER II PREPARATION FOR MARKET

A. HARVESTING

1. SEASON FOR EARLY AND LATE VARIETIES.

58. Jute plants are ordinarily ready for harvesting about four months after sowing. The harvesting season, however, depends on the variety of jute sown, the type of land on which it is sown and weather conditions. If rains at the time of sowing and during the period of growth are late, the crops would obviously be delayed. Or, if there is danger of plants being submerged through floods, they may require to be cut early. Thus, the seasonal condition factor and the different times at which growers cut their crop, spread the season of harvesting over a period of two or three months for each variety. Capsularis, being usually sown a month or two before *Olitorius*, matures earlier and is generally harvested from mid June to August. Plants on the low lands are normally harvested from about the middle of June onwards, but are often cut earlier, irrespective of the stage of growth, if there is danger of destruction by floods. In the latter case, the resultant fibre is likely to have good colour and gloss, but it is usually short. Harvesting in mid lands continues from mid July to the end of August, and in high lands from mid August to early September. *Olitorius* matures later, and in the ordinary course it is cut in August and September. In the *daisce* districts,¹ the harvesting of this variety sometimes extends even into October.

2. DIFFERENT STAGES.

59. The most common stages of growth at which jute may be cut, are

- (i) when in bud,
- (ii) flowering,
- (iii) fruit formation, and
- (iv) fruit ripening.

About four weeks are generally taken by plants to pass through these stages. Plants are considered to be immature at the bud formation stage, hence, although the fibre of plants harvested at that time is soft and silky, its spinning qualities are generally

¹ 24-Parganas, Hooghly, Howrah, Khulna, and the lower sections of Jessore and Nadia are the most important ones.



Cutting Jute

poor. Also the yield of jute per unit of area is small.¹ In actual practice, plants are seldom cut before they flower unless weather considerations or rise in river levels compel growers to do so. It is universally recognised that the longer the jute plants are allowed to grow the heavier will be the yield. Therefore, except for a few individual instances, cutting even at the flowering stage is not common. Harvesting usually takes place during the fruit formation stage. This gives the most satisfactory results of yield and good quality fibre. On the other hand, plants left standing until the fruits are ripe would no doubt yield a greater amount of jute, but the fibre is likely to be coarse thereby reducing the ultimate value of the crop. Experiments have been carried out by the Department of Agriculture, Bengal, to find out the results of cutting jute plants at different stages. The following yields were obtained from experiments conducted at Dacca on the Capsularis variety sown at 4"×4" spacings. Experiments

TABLE XXV.

Yield of Jute at Various Stages of Harvesting. (per acre)

Year	Bud stage		Flower stage		Pod (fruit) stage	
	Mds.	Srs.	Mds.	Srs.	Mds.	Srs.
1932-33	14	21	16	29	17	8
1933-34	13	10	14	30	18	0
1934-35	20	5	21	10	22	10
1935-36	23	5	21	35	25	35
1936-37	19	20	23	0	26	0
1937-38	15	20	18	30	22	16
Average	17	22	19	16	21	38

undertaken at Burdwan, earlier in the century, on the Olitorius variety, reveal a similar tendency.

60. The jute plants are cut with sickles close to the ground. In low lying areas where fields are flooded, workers dive under water and after cutting as many plants as they can manage in one sweep—usually 6 to 8—load them on boats moored alongside. About 8 such stems are then tied together in small bundles locally called *anti*. Eight or ten such *antis* are later tied together to make *bojhas* (big bundles), which are either left to shed their leaves—in the case of high lands—or are taken direct to the retting places—as practised in the low lands.

¹ See Table XXV.

B. PREPARATION OF FIBRE

1. SHEDDING OF LEAVES.

61. Plants grown on land above inundation level are, after bundling, left in the fields for 2 to 4 days for the shedding of leaves. In high lands, these are usually piled flat on the ground so that the root end of one bundle covers the top end of the other, the piles being sometimes covered with palmyra leaves. Plants of partly water-logged fields are either piled flat on adjacent dry land or left standing in a slanting position in the same field. When the latter method is adopted, the roots necessarily remain immersed in water thereby softening more quickly. The practice of allowing the plants to shed their leaves reduces the weight of the bundles, and economises the labour necessary for steeping, while the fallen leaves serve as manure. It is said that when steeped with the leaves on, the bundles do not submerge evenly as the top ends being lighter have a tendency to keep near the surface of water. This has to be guarded against, because unless the top ends are more heavily weighed down, the plants will not be uniformly retted and the resultant fibre will be *croppy*, i.e. the top end would be rough and hard. Experimental work should be undertaken to determine if any other factor is responsible for making the fibre *croppy*. The practice of steeping bundles with their leaves on prevails in low lying areas where the plants have to be cut under water and where the shedding of leaves is not possible.

2. STEEPING.

62. Jute fibre is situated in the outer layer of the stem, between the wood on the inside and the cortex on the outside and is surrounded by soft tissues. During retting, which is a fermentation process brought about by bacterial action, these tissues get softened with the result that the fibre can be separated readily in the subsequent process of stripping. The quality of the fibre depends greatly on the care exercised in retting. Therefore, after the plants have been in water for about a week, they have to be examined almost daily to ascertain the progress of retting. The process is regarded as complete when the fibre separates easily from the wood or "stick." Stripping is ordinarily started soon after the retting has been completed. If stems are left in water too long, some of the gummy matter contained in each strand dissolves and the resultant fibre becomes weak and dull coloured.

63. (a) *Types of retting water*—The bundles of jute stems

are steeped in stagnant or running water, whichever may be conveniently available. Slow streams and rivulets are preferred to fast running rivers as the bundles are apt to be washed away in the latter. Moreover, the process of retting is slower in strong currents and it is also irregular because the inner stems ret more quickly than the outside ones. In low land areas, ponds, ditches and *bheels*, which fill up during the monsoon weather, provide stagnant water for retting. In the high lands, where these are not available, *dobas* (borrow pits) have to be dug for retting. The stagnant water in all such places is generally used in each season for 2 or 3 steepings one after the other. Retting in stagnant water is quicker than in running water as bacterial action is more vigorous. This is due to the comparatively high temperature of water in stagnant pools.

64. The nature of water is the principal factor in determining the colour of fibre. So much is this the case that the jute areas are commonly divided into two broad geographical divisions, viz., those served by each of the two great rivers, the Brahmaputra and the Ganges, together with their tributaries. The water of the former is clear, therefore, the fibre from those parts of Mymensingh and Dacca through which the old Brahmaputra flows, as also from the Meghna area in Dacca and Tippera, is of good white colour. The water of the Ganges and its tributaries, on the other hand, is muddy and the colour of the fibre from the districts of Murshidabad, Nadia, Jessore, 24 Parganas, Hooghly, etc. is yellowish brown or grey.

65. When a pool of stagnant muddy water is used for a series of steepings, the colour invariably deteriorates and the fibre becomes darker. Also, when bundles are steeped in muddy running water, deposits of silt settle on stems and eventually discolour the fibre. It has been noticed that when water is reddish brown, the fibre is likely to become blackish. This is due, it is said, to the action of iron salts contained in the water. Water of this sort is quite common in West Bengal and in parts of Bihar. It is quite probable that the dark grey colour of *shamla* fibre is the result of retting in such water. This point however, requires to be verified by chemical experiments.

66. The depth of water necessary to ensure uniform retting is usually considered to be 4 to 5 feet. The bundles should be completely submerged, about 6" to 8" below water level, but should not sink to the bottom, otherwise retting will not be uniform and the fibre of stems resting on the mud will be dirty

in colour. The growers generally ret in any type of water that is available in the vicinity of their fields, and are reluctant to incur additional expenditure by transporting bundles to places with better steeping water. It is only in the low lying areas of East Bengal and Assam that retting is done in slow running water. But, stagnant water is commonly used in North and West Bengal, Bihar, Orissa and in the high lands of Assam.

67. (b) *Methods of steeping*--Bundles, when being submerged in water, are arranged in a criss-cross manner and are interlaced. Often when jute stems are steeped with leaves on, bundles are arranged lengthwise in such a way that the root ends of one cover the top (leafy) ends of the other. This is done generally in places where only a narrow strip of water is available for retting. If water is deep enough, two or three layers of bundles are steeped one on top of the other. When this is done, the position of the bundles has to be changed every four or five days, otherwise the stems in the centre ret more quickly than those at the sides. If steeping is done in running water the bundles are tied to posts fixed firmly on the bank. As complete submersion is essential for uniform retting, stems are usually weighed down with weeds, water hyacinth, plantain stems or sods of earth. This must be done, however, in such a way that the bundles, though submerged, do not sink to the bottom. In the low lying areas of East Bengal, water hyacinth alone is used for this purpose, while sods of earth are more commonly used in the rest of the jute growing areas. The latter practice tends to darken the colour of the fibre obtained from the top layer of the bundles. In some parts of North Bengal, bundles are lightly covered with leaves and then weighed down with sods of earth. This method, when employed carefully, minimises the chances of discolouration. The use of water hyacinth also eliminates all possibilities of such defect. Moreover, according to the experiments carried out by the Department of Agriculture, Bengal, water hyacinth expedites the retting process.

68. (c) *Time taken in retting*--The time required for the proper retting of the jute stems depends largely on type of water available, the prevailing weather conditions and the stage at which plants have been harvested. Steeping in stagnant water is generally preferred as owing to its higher temperature retting is quicker. Plants retted in water where other plants have been previously retted take less time. Further, the sun's rays are

stronger during the months of July and August—the first half of the harvesting season—and retting during this period is quicker than in the months of September and October. Again, the plants which are cut at the bud forming and flowering stages take less time in retting than those harvested at a later stages. This is due to the fact that the gummy matter binding the fibre to the “stick” is more easily dissolved in the case of plants which are cut before maturity. The time usually taken in retting ranges between 12 and 25 days. Although there is no hard and fast rule, the following table will give a general idea of the time taken by this process.

TABLE XXVI
Approximate Time Taken in Retting.

Early period— mid-June to mid-August.		Intermediate period— mid July to mid-September.		Late period— mid-August to mid-October.	
District.	Days	District.	Days	District.	Days
Dacca	15-18 18-22 *	Rajshahi	14-20	24-Parganas	15-20 20-25 *
Mymensingh	15-20 20-25 *	Dinajpur	16-18	Nadia	18-20
Faridpur	15-18 20-25 *	Jalpaiguri	18-25 *	Murshidabad	16-20
Bakarganj	16-20 21-25 *	Bogra	12-15 18-20 *	Jessore	18-20
Tippera	15-18 18-20 *	Pabna	15-20 20-25 *	Khulna	16-18 18-21 *
Noakhali	15-20	Malda	15-20	Hooghly	14-16 16-20 *
Tripura State	18-21	Rangpur	12-18 16-20 *		
Assam	12-18 15-20 *	Purnea	15-20	Orissa	15-22

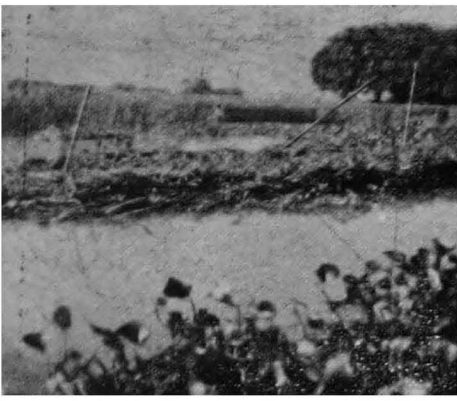
Denotes time taken for retting in *running water*. Rest refer to retting in stagnant water.

Source—Marketing Enquiry.

3. STRIPPING AND WASHING—DIFFERENT METHODS.

69. When retting is complete, bundles are either taken out on land or brought to shallow water for the purpose of stripping the fibre. The three methods of stripping described below are practised in various jute growing areas.

- (i) The labourer stands in water 2 to 3 feet deep, and holds one small bundle—8 to 10 plants—in the left hand, and beats the root ends with a mallet held in the right hand. When crushed, the root ends of the stems (about 1 foot in length) are broken off and thrown on dry ground. The fibre thus loosened is wrapped round the fingers of one hand, and the stems are jerked forward and backward in water, thereby separating the fibre from the sticks. The latter are then thrown on the bank and the fibre is washed, bits of sticks adhering to it are removed, water is squeezed out, and jute is piled on clean ground. Ordinarily one man strips about half a maund of fibre per day. The above is the most common method of stripping and is practised in all jute growing areas with the exception of the East Bengal and parts of a few other districts.
- (ii) The bundles are taken out of the retting ponds, water is drained off, and each stem is stripped separately. The worker holds the root end of a small bundle (*anti*) in the left hand, and separates the lower end of the fibre of each plant with the right, holding the stripped fibre between the fore and middle fingers of that hand. After the fibre of all the stems in a bundle has been loosened at the root ends, the fibre and sticks are gently pulled apart. The stripped fibre is later made into small bundles which are washed in clean running water either the same, or on the following, day. The work is usually done by women and children, a skilled worker stripping as much as half a maund of fibre in a day. This method prevails particularly in East Bengal.
- (iii) The following practice of stripping is adopted by some growers in parts of the Nowgong and Kamrup districts of Assam. Completely retted bundles of jute stems are taken out of water and placed either on the roadside or on an embankment. Small bundles are then broken into 2 or 3 parts by means of a mallet. The fibre is separated from the sticks by shaking the stems and washing them in water. As against single-stripping, this method is said to



Retting



Single Stripping



Bunch Stripping



Washing



Bundling before drying

save some labour, although the fibre so extracted does not appear to be as good as that obtained by the former method. At the same time, the sticks having been broken at different places, are of little use to growers except as fuel.

4. DRYING AND BUNDLING OF FIBRE.

70. As a rule, the fibre is dried in the sun. It is hung on bamboo frames, two-thirds of it from the top end hanging on one side and the rest on the other. Sometimes, the fibre is also dried by spreading it on thatched roofs and on the grassy ground in front of the growers' houses. The time taken for drying depends on weather conditions but, given enough sunshine, 2 or 3 days are sufficient to complete the process. When dry, the fibre is made up into lots of about 5 seers each and tied at the top ends, being locally called *dharas* or *moras*. It should be mentioned that growers do not assort their jute at all, either according to colour or length. In some parts of North and East Bengal, jute is sold in the *hats* and even in secondary markets in the form of *dharas*. In other places, the *dharas* are given a slight twist and are then folded into small compact bundles called *muttas*, which are later made up into bigger bundles (*bojhas*), to facilitate transport. The *bojhas* vary in weight from half a maund to one maund each. Thus it will be seen that, although jute is made up into bundles of varying weights and sizes, these differ in accordance with local custom only and have no regional or trade significance.

C. COST OF HARVESTING AND PREPARATION

1. GENERAL CONSIDERATIONS.

71. It will be apparent from what has been said above that each process of preparation directly affects the quality of fibre. The processes being complicated, it is necessary to employ labour which possesses skill above the average. As the season for the harvesting of jute coincides with that for *aus* paddy and also with the season for the transplantation of *aman* paddy in some districts, there is an universal demand for labour at that time, and so the wages for labour suited to the processes of preparation are usually high. Moreover, the preparation of fibre necessitates working in water for long periods under conditions so unhygienic that the labourers are continually exposed to the dangers of contracting malaria and skin diseases. Again, because jute is

the chief money crop of the province and delay in the performance of any of the processes is likely to affect quality, adversely, labourers demand, and are paid, wages higher than those prevailing in agriculture at any other time of the year. Another factor which affects the cost of preparation is that jute is a bulky crop and the number of labourers required per unit of area is more than for any other crop. The labour usually available in Bengal is well versed in all the aspects of the preparation of fibre and that of East Bengal is said to be more skilled than that of North Bengal. In Bihar, the jute growers of Purnea generally depend on labourers from the neighbouring districts of Bhagalpur and Darbhanga. The Assamese, especially in Nowgong and Kamrup districts, take more care during the preparation stages, hence their fibre is superior to that produced by the settlers from Bengal.

72. With the exception of jute, the other agricultural crops of North East India—e.g. paddy, oil seeds, pulses, etc.—undergo little preparation for the market. After the harvesting and winnowing operations have been performed, mainly by the peasant and his family, the produce is usually ready for sale. But the case of jute is rather different. The processes—discussed in the previous section—are more in number, have to be undertaken at the right times and are of a complicated nature. In addition, jute is a bulky crop. The experiments conducted at the Agricultural Research Laboratories of the Indian Central Jute Committee, show that the fibre produced is, on an average, about 6 per cent. of the weight of the green plants. According to the Marketing Enquiry, the average area per cultivator which was sown with jute in 1937-38 was $1\frac{1}{2}$ acres,¹ which produced approximately 22 mds. of fibre,² with a green crop of over 360 mds. Thus, it is not possible for an average jute grower's family to complete, without outside help, all the processes of preparation at the right time. This difficulty is overcome to a certain extent by mutual assistance on the part of various cultivators. A large number of them, however, engage labourers for all the necessary work.

2. SYSTEM OF WAGES.

73. Labourers are paid either on a "time wage" or "piece

¹ 5,672 growers cultivated 8,624 acres in 1937-38, i. e. an average jute area of $1\frac{1}{2}$ acres per grower (for details, see Table XV, supra).

² The average yield according to crop-cutting experiments was 14.8 mds. per acre in 1937-38 (*vide* Table XVIII, supra).

wage" basis. A third system is contractual, whereby labourers undertake to do any specified work for a fixed remuneration. Lastly, there is the share system sometimes adopted in parts of Bihar and West Bengal, whereby the labourers cut, ret and prepare jute in return for a share of the total amount of fibre produced. More than one wage system may sometimes be in operation in the same district. The time wage system is most common, and prevails all over the jute growing areas, especially in East Bengal and Assam. The hours of work vary according to districts, but usually labourers work for about 10 hours per day. In some districts they are paid cash wages only, but generally they are provided with two or three meals in addition to wages. The average cost of a meal is about one anna. The rate of wages is lowest in Orissa being Re. 0-2-6 per day, and highest in the Nowgong district of Assam, i.e. Re. 0-11-0 per day: the average for all jute growing areas works out at Re. 0-6-0 per day. The piece wage system for all the processes of preparation—or, any one of them, particularly stripping—prevails in some parts of North Bengal and Bihar. The rates are, ordinarily, fixed on the basis of a *kori* (i.e. 20 bundles, which yield about half a maund of fibre), being Re. 0-3-6 for reaping and bundling, Re. 0-3-6 for steeping and Re. 0-5-0 for stripping; drying is done by the growers themselves. In West Bengal, however, only stripping is normally done on piece wage, the charges being six pies to one anna per bundle according to its size. In some places, one or two meals are given in addition to the cash wages. The contract system, for all or any of the processes, is adopted in those areas where labour is scarce and cash wages are unusually high. In the first case, the remuneration, which is in cash, is fixed on the basis of a unit of area, while the rate for individual processes is determined on the basis of a number of bundles. The sharing system is also adopted for the foregoing reasons and when growers have no ready money. The labourer's share is fixed by mutual agreement. Generally, only stripping is done on the share system, and the labourer receives one-eighth of the fibre stripped by him. When the piece work, contract or sharing system of wages is adopted, the processes of preparation, in so far as they depend upon human agency, are completed in a shorter period. Often, however, the desire to turn out quantities may result in inferior quality. This is not usually the case when labour is paid on a time basis.

3. COMPARATIVE COSTS.

74. The average costs of preparation in the various parts of Bengal, and for the provinces of Bihar, Assam and Orissa are given below. Since the charges included in the table were reported by the growers themselves, the Marketing Enquiry yield figures have been adopted as a special case in order to calculate

TABLE XXVII

Average Cost of Preparation of Jute Fibre for Marketing.
(per acre)

Items of expenditure	Jute growing provinces.					
	Bengal			Bihar	Assam	Orissa
	East	North	West			
1. Cutting & bundling						
No. of hands	17	15	17	13	15	20
Wages Rs.	0 6 6	0 6 9	0 6 2	0 5 6	0 8 4	0 2 6
Expenses Rs.	6 15 5	6 13 8	6 8 10	4 7 6	7 13 5	3 2 0
2. Carrying & steeping						
No. of hands	7	9	6	11	5	15
Wages Rs.	0 6 9	0 7 2	0 6 3	0 5 6	0 8 6	0 2 6
Expenses Rs.	2 15 3	4 0 6	2 5 6	3 12 6	2 10 6	2 5 6
3. Stripping & washing						
No. of hands	32	19	21	18	26	30
Wages Rs.	0 6 7	0 7 4	0 6 10	0 5 6	0 8 11	0 2 6
Expenses Rs.	13 4 0	8 11 4	8 15 6	6 3 0	14 7 10	4 11 0
4. Drying & bundling						
No. of hands	7	5	6	4	5	6
Wages Rs.	0 6 8	0 6 8	0 6 3	0 5 6	0 9 1	0 2 6
Expenses Rs.	2 14 8	2 1 4	2 5 6	1 6 0	2 13 5	0 15 0
5. Total expenses per acre						
Rs.	26 1 4	21 10 10	20 3 4	15 13 0	27 13 2	11 1 6
Yield per acre, 1937-38, (mds.)**	13.36	10.40	10.44	8.50	13.40	9.94
6. Expenses per md.						
Rs.	1 15 3	2 1 4	1 15 0	1 13 9	2 1 2	1 2 0

** *Vide*—Table XIX.

Source—Marketing Enquiry.

PERCENTAGE EXPENDITURE

ON

PREPARATION OF JUTE,

CUTTING & BUNDLING



STRIPPING & WASHING



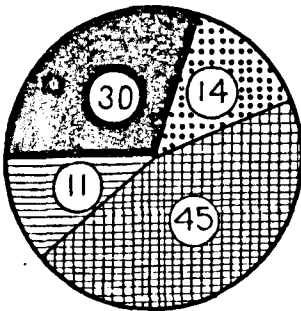
CARRYING & STEEPING



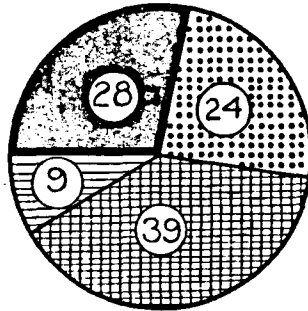
DRYING & BUNDLING



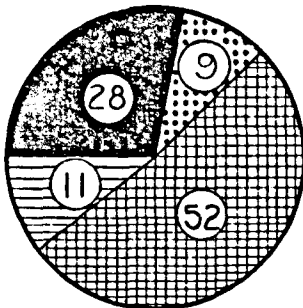
BENGAL



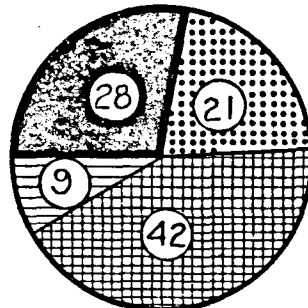
BIHAR



ASSAM



ORISSA



the average costs per maund.¹ It is interesting to note that the average costs per md. throughout Bengal were very nearly the same, being Rs. 1-15-3 in East Bengal, Rs. 2-1-4 in North Bengal and Rs. 1-15-0 in West Bengal. The expenses in Bihar, Rs. 1-13-9 per md., were somewhat lower. And, the costs in Orissa, Rs. 1-2-0 per md., were the lowest because of the low wages prevailing there. The heavy expenses in Assam, Rs. 2-1-2 per md., were the result of high wages, e.g. Re. 0-11-0 per head in Nowgong, which may possibly be due to a shortage of skilled labour required for the preparation of fibre.

D. SEASON FOR MARKETING: DETERMINING FACTORS

75. When jute has been washed, dried and bundled it is ready for sale, but growers generally store it for some time. They watch the trend of market prices for 4 or 5 weeks, and compare the offers made by the various peripatetic dealers visiting the neighbourhood. As a rule, the sale of jute is affected by the following factors:

1. Time of harvesting.
2. Transport conditions.
3. Financial position of growers.
4. Storage accommodation in villages.

1. TIME OF HARVESTING.

76. East Bengal and Assam are usually the first to harvest their crop, followed by North Bengal and Bihar. West Bengal comes last, most of the harvesting being done in September. A comparative statement showing broadly the relation between the time of harvesting and the commencement of sales is given below. Generally speaking, in East Bengal and Assam, where Capsularis predominates (about 87 and 98 per cent. respectively), the sale of new jute starts in July and reaches its peak in September, after which the decline begins. In North Bengal, where Capsularis is 75 per cent. and Olitorius 25 per cent., effective sales start in August, the peak being reached in September and October. And, in West Bengal, where Olitorius predominates (88 per cent.), sales commence in earnest towards the end of September, and reach the highest figures in October and November. Again, in Bihar, where Capsularis is 60 per cent.

¹ In Ch. I, Section D supra, the crop cutting results were accepted as the most satisfactory yield figures available, but in view of the above explanation, they cannot be adopted in the present case,

Jute growing areas	Time of sowing	Time of harvesting	Sales	
			Commencement	Peak month
East Bengal	Mid-February to Mid-April	Mid-June to Mid-August	July	September
North Bengal	March to April	Mid-July to early September	Mid-August	September to October
West Bengal	April to May	Mid-August to Sep.	End September	October to November
Bihar	Mid-March to April	August to Mid-Sept.	September	October
Assam	March to April	July to August	End July	September
Orissa	May to June	Sept. to Mid-October	November	December

and Olitorius 40 per cent., sales begin in September and are heaviest in October and November. Orissa jute, however, owing to late sowings, starts selling in October, the peak being reached in December.

2. TRANSPORT CONDITIONS.

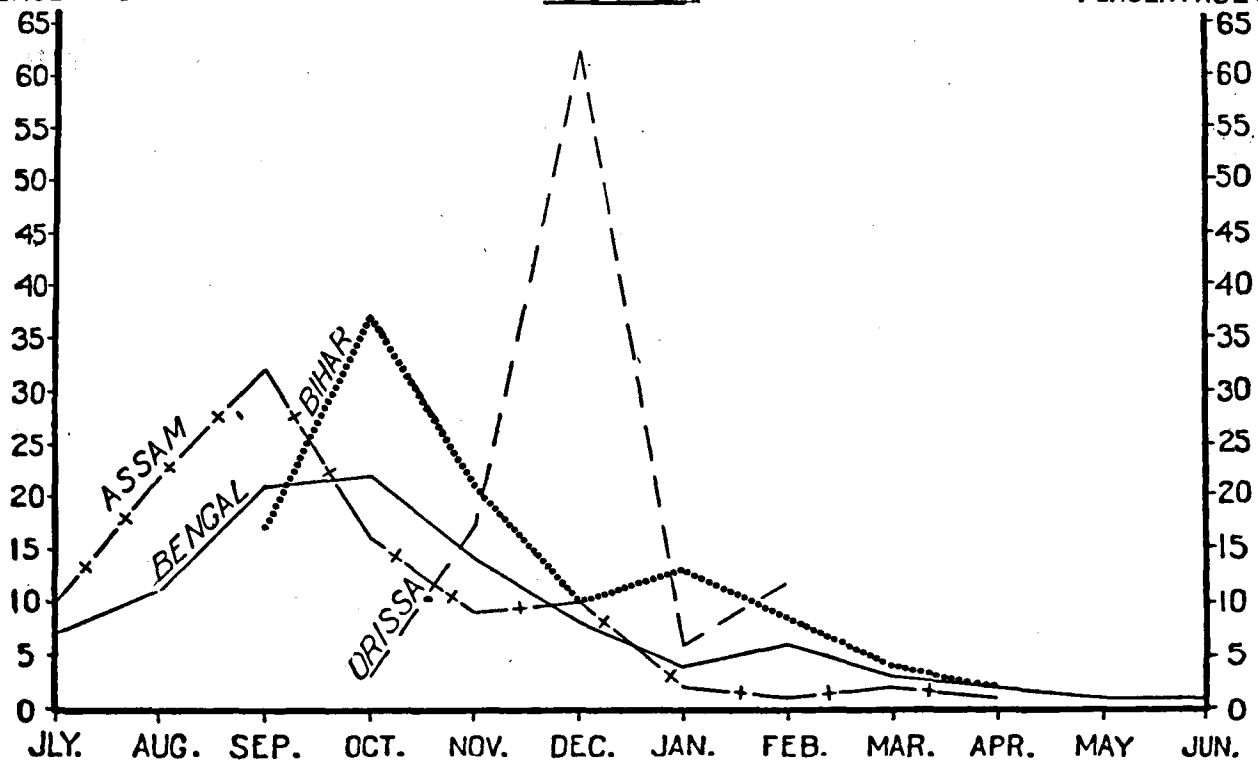
77. Transport considerations largely influence the time chosen by growers for the disposal of their fibre. In East Bengal, for example, roads are merely fair weather tracks, and so most of the transportation has to be done by waterways. In 1937-38, about 5 per cent. of the total jute arrivals in the secondary markets of East Bengal had been transported by carts and ponies, while the arrivals by country boats amounted to about 85 per cent. of the total, the remaining 10 per cent. reaching the markets in head loads. As the monsoon usually starts in Bengal about the middle of June, *khals* and *bheels* generally fill up by the first week of July and remain navigable for small village craft up to late October each year. With the progress of the monsoon, water from the rivers flows through the *khals* over the surrounding low lying areas with the result that during August and September a large number of villages are thus placed in direct touch with the markets. The flood water, however, recedes soon after the close of the monsoon (i.e. about the beginning of October), thus again making communications between most of the villages and the

SALES BY GROWERS IN DIFFERENT MONTHS.

PERCENTAGES

1937-38

PERCENTAGES



neighbouring markets difficult. In rare instances, *khals* and *bheels* may remain navigable for another month or two, but they serve only a small number of villages. Thus, while other factors, discussed later, play an important part, the difficulty of transport from October onwards undoubtedly provides a powerful incentive for the early sale of jute in East Bengal—68 per cent. is marketed as a rule between July and October as shown below.

TABLE XXVIII
Sale of Jute by Growers (in percentages)†
Season 1937-38.

Month	Jute growing provinces.						
	Bengal				Bihar	Assam	Orissa
	East	North	West	Average			
July	12	1	...	7	...	10	...
August	14	10	2	11	...	22	...
September	23	23	8	21	17	32	...
October	19	23	33.5	22	37	16	3
November	8	19	34.5	14	21	9	17
December	6	11	12	8	5	5	62
January	3	4	7	4	13	2	6
February	7	4	**	6	...	1	12
March	3	2	2	3	4	2	...
April	3	2	1	2	2	1	...
May	1	1	**	1	1	...	...
June	1	**	**	1	...	...	...
Total	100	100	100	100	100	100	100

† The figures represent the weighted averages of the sales in various districts.

** Sales have been small and may be considered negligible for all practical purposes.

Source—Marketing Enquiry.

78. In Assam, the position seems to be different. While, in 1937-38, 45 per cent. of the jute arrivals in the secondary

markets were by boat, 45 per cent. by cart and the remaining 10 per cent. in the form of head loads, the jute sold between July and October, 1937, amounted to 80 per cent. of the total quantity marketed there during the season. So that, although jute from low lands may have been hurriedly sold lest the close of the monsoon made communications difficult in those parts, the same explanation cannot be offered for the early arrivals by road. If transport facilities were the sole factor governing the sale of jute, the road arrivals would be delayed till the rains are over and the roads are put in good order once again.

79. In North Bengal again, the percentage of jute reaching the markets in 1937-38 was about 85 by road and 15 by river. Altogether, about 75 per cent. of jute had been sold during the period August to November. It might be said that roads being usually bad in the monsoon months, heaviest sales take place in September and October. The question then arises as to why should the sales become comparatively negligible after December although the roads are at their best during the winter and summer. This indicates that, apart from the question of transport, other factors also regulate the monthly sales of jute.

80. A similar state of affairs exists in West Bengal, where about 90 per cent. of jute is transported by road, 5 per cent. by railway and only 5 per cent. by water. About 88 per cent. of the 1937-38 sales of jute, however, took place between the months of September and December. The area being mainly Olitorius, late harvesting is primarily responsible for the late commencement of the marketing season. Sales of jute by growers in Bihar and Orissa shows a similar tendency. By far the major portion of the crop is disposed of within 3 months of harvesting. It should be plain from this review that the transportation problem affects the sale of growers jute to a great extent. But it is important to note that other factors also, viz. the financial position of the growers and insufficient storage space in their houses, are responsible for the quick sale of jute by cultivators.

3. FINANCIAL POSITION OF GROWERS.

81. During the Enquiry, an attempt was made to investigate the extent of the indebtedness of growers in connection with the cultivation of jute, the results of which are given below. It should be stated that the Marketing Staff had great difficulty in securing information on this particular point. The people questioned were reluctant to reveal their financial position

before their neighbours, with the result that for many districts no satisfactory data could be obtained. Moreover, it is not possible to isolate the effects of the debts contracted for the specific purpose of cultivating jute. Loans taken for other productive and unproductive objects also influence the sales of jute. Being the principal money crop of Bengal, jute is usually relied upon for the repayment of debts. Unfortunately, it was

TABLE XXIX
Showing Extent of Indebtedness for Jute Cultivation (1937-38)

Districts	No. of growers questioned	No. of growers reported as taking loans	Percentage of growers taking loans
Bengal			
Faridpur	443	88	20
Mymensingh	381	103	27
Jalpaiguri	157	2	1
Rangpur	675	133	19
Hooghly	155	83	53
Jessore	201	42	21
24 Parganas	211	129	61
Nadia	113	35	31
Pabna	393	324	82
Total	2,720	939	35
Bihar			
Purnea	147	37	25
Assam			
Sylhet	290	8	3
Goalpara	217	10	5
Kamrup	62	6	10
Nowgong	186	10	5
Total	755	34	5
General Total	3,622	1,010	28

Source—Marketing Enquiry.

not found possible to conduct an adequate enquiry into the question of the general rural indebtedness and its effects on the sale of jute by growers. Nevertheless, the Enquiry shows that at least 35 per cent. of the growers questioned in Bengal had borrowed money for the cultivation of jute.

82. An enquiry into the question of rural indebtedness in Bengal was, however, undertaken a few years ago by the Bengal

Board of Economic Enquiry. The following figures extracted from the report, published in January 1935, give some idea of the financial position of the agricultural population of Bengal. No separate survey was undertaken among jute growers but the main jute districts were included in the survey. The

TABLE XXX

Districts	No. of families surveyed	Average earners	Average dependents	Average family size.	Average land (acres)	1928 average in Rs.				1933 average in Rs.			
						Income	Expenditure	Surplus	Debt	Income	Expenditure	Surplus	Debt
1	2	3	4	5	6	7	8	9	10	11	12	13	14
All districts surveyed.	6,359	2.14	4.75	6.89	6.73	218	217	+1	112	114	136	-22	187

total agricultural indebtedness was estimated at 97 crores of rupees and 77 per cent. of the agricultural population was found to be in debt. The report also shows that, compared with 1928, both the income and expenditure of an average agricultural family—consisting of about 7 members, i.e. 2 earners and 5 dependents—had decreased in 1933 by 48 and 37 per cent. respectively, but the average indebtedness had increased by 67 per cent. The heavy drop in prices—agricultural prices suffered more than those for industrial goods—the general inability of the peasantry to pay even the interest charges, and the fact that expenditure could not be reduced in the same proportion as the fall in income were together responsible for the accumulation of debts.

83. Thus, owing to increased indebtedness, the financial position of the average cultivator may be regarded as anything but sound. He has to pay interest on his borrowings, possibly something against the principal, and the rent to the landlord. Being aware that if the growers do not meet the dues out of the sale proceeds of their jute, they will not, in all probability, be in a position to pay till the next jute crop, the creditors and

landlords press for payment as soon as fibre is ready for sale. Further, the agriculturist needs money for domestic requirements and for the *rabi* crop. It is small wonder, in view of these circumstances, that the holding power of the average grower is almost nil.

4. STORAGE ACCOMMODATION IN VILLAGES.

84. Yet another factor conducive to the early sale of jute is the insufficiency of storage accommodation in the growers' houses. The average peasant does not ordinarily put up a separate structure for storing his produce, but keeps jute as well as paddy, cereals, etc., in his house which usually comprises two or three small rooms. Obviously, houses of this type cannot comfortably accommodate a family of at least 5 to 6 members, and the situation is not improved when living space is utilised for storage purposes. The *aman* paddy is harvested in November and December, and cultivators store a quantity sufficient to last them till the *aus* paddy is available in July. As most of the storage space inside growers' houses is required for paddy, little room is left for jute, and so early disposal is inevitable.

5. SUMMARY.

85. The cumulative effect of all these factors was that the following proportions of new jute were sold by growers within 3 to 4 months of the commencement of the marketing season.

68%	in East Bengal	between July & Oct.	1937.
75%	„ North „	„ Aug. & Nov.	1937.
88%	„ West „	„ Sept. & Dec.	1937.
75%	„ Bihar „	„ Sept. & Nov.	1937.
80%	„ Assam „	„ July & Oct.	1937.
82%	„ Orissa „	„ Oct. & Dec.	1937.

It will be seen from the above figures that, in the marketing season 1937-38, growers in East Bengal disposed of two-thirds of their jute during the months of July to October. In spite of the fact that river communications, which in this area form the most convenient means of transport, are adequate during these months, it was found that 38 per cent. of jute had been disposed of by the middle of September. From then until the end of October, a further 30 per cent. of jute was marketed. The earlier sales were undoubtedly due to financial stringency, while the latter were the results of the growers' desire to make full use of water communications before they became impaired by the seasonal fall

in the rivers. The balance of 32 per cent. was sold from November onwards, its disposal being governed in all probabilities by demand and supply.

86. In North Bengal, on the other hand, about 85 per cent. of jute is transported by carts. The condition of roads in this area is bad until the middle of October, but by that time in 1937 about 45 per cent. of the jute had been disposed of by the growers. These early sales may definitely be attributed to the cultivators' need for money. The roads generally improve after the close of the monsoon, and about 30 per cent. of the fibre was sold from mid October to the end of November 1937. Improved communications may have facilitated large sales during those months, but the fact remains that the owners were in a hurry to part with their fibre even though there was every likelihood that the transport conditions would remain satisfactory in the subsequent months. This appears to indicate that the weak financial position of the agriculturists was also responsible for sales in October and November. The remaining 25 per cent. was sold between December 1937 and June 1938.

87. Similarly, in West Bengal, transport conditions improve from October onwards. The early sales of jute in September and October 1937—amounting to about 43 per cent.—may, therefore, be attributed to the financial condition of the growers, whereas the sales in November and December 1937—about 47 per cent.—were probably the result of the transport facilities as well as of the poor holding power of the cultivators. The sale of the remaining fibre, about 10 per cent., does not appear to be affected by the financial condition of the growers.

88. Again, in the district of Purnea (Bihar), almost all the jute is transported by roads which are usually in a bad condition till the middle of October. The sales up to that time—about 36 per cent. in September and up to the middle of October—may, therefore, be regard as an indication of the growers' need for money, and the sale of jute from the middle of October to the end of November 1937—about 40 per cent.—was probably due to the financial and transport considerations. The sale of the balance of the fibre—about 24 per cent.—seems to have been uninfluenced by these factors.

89. Orissa is somewhat different from the other jute growing provinces. As the harvesting season continues till the middle of October, and as the processes preparatory to marketing take

about a month after that, a large portion of the fibre is not ready for sale before the middle of November each year. In 1937, about 3, 17 and 62 per cent. of jute was sold by the growers in October, November and December respectively. Transport conditions, however, do not appear to have been a controlling factor in the sale of jute in Orissa. The exceptionally heavy sales in December and the shortness of the marketing season show that the owners were inclined to sell their fibre as soon after harvesting as possible. This could only be due to the poor financial condition of the agriculturists. Moreover, the remaining jute supply was also disposed of by February 1938—6 per cent. in January and 12 per cent. in February—and was not spread over the rest of the season as in the case of the other provinces.

90. Lastly, the principal jute growing districts of Assam are Sylhet, Goalpara, Kamrup and Nowgong. The last two are highland districts, and almost all the jute grown there is transported by carts. Goalpara has low lying areas and is served by a number of rivers which are usually navigable for the greater part of the year. The transport conditions in Sylhet district are similar to those of East Bengal, i.e. the flood water from *bheel* lands commences to recede about the middle of October. Thus, the sale of jute from July to September 1937—about 64 per cent.—could be regarded as being mainly due to the financial requirements of the growers. The sales in October and November 1937—amounting to 25 per cent. of the crop—were possibly influenced by transport and finance factors. The remaining jute—about 11 per cent.—was sold between December 1937 and April 1938.

The results of this review of 1937-38 season may be summarised as under.

Province	Sales due to		Sales not directly due to finance or transport.
	Finance	Finance & Transport	
Bengal	%	%	%
East	38	30	32
North	45	30	25
West	43	47	10
Bihar	36	40	24
Assam	64	25	11
Orissa	82	—	18

CHAPTER III

ASSEMBLING

A. GENERAL

91. The movement of jute from the fields to the factories takes place, as a rule, in three distinct stages. The first stage is from villages to the primary assembling markets. About three-fourths of the marketable surplus is disposed of by growers at their own doors, while one-fifth is sold by them in the primary markets and hats.¹ Throughout the Report, the term "marketable surplus" is used to signify the total production of jute minus the small quantity retained by growers for domestic consumption.² The second stage is from the rural areas to the secondary markets, i.e. baling centres, both *kutchā* and *pucca*. Only a small percentage of growers, consisting mainly of those whose holdings are located in close proximity, bring their fibre for sale to these markets. The proportion estimated to be thus sold amounts to only one-twentieth of the marketable surplus. The importance of these baling centres must be stressed since they represent the final limits within the reach of practically all producers and small dealers for the marketing of their fibre. The third stage is from the up-country baling centres to the loose jute markets of Calcutta, the press houses of *pucca* balers, the jute mills, and to ships for export at Chittagong and Calcutta. But, before the actual study of the movement of jute along these channels is undertaken, it is desirable that the work and the relative importance of the various functionaries be clearly understood. It should be pointed out, however, that a particular term may mean one thing in some districts, and something quite different in other places. For example, over most of Bengal and Assam, the term '*faria*' implies a small *bepari* (an intermediary), while in Purnea (Bihar), parts of Malda, Murshidabad, etc., '*faria*' means a small '*aratdar*' (a merchant). Thus, there is no complete uniformity in the use of the various terms, which makes the distinctions rather difficult.

¹ Cf. Table XXXIII infra.

² Vide Ch. I, Sec. F, supra.

B. DESCRIPTION AND FUNCTIONS OF VARIOUS INTERMEDIARIES

1. GENERAL.

92. The Marketing Enquiry has established that the major portion, about 75 per cent., of the marketable surplus of jute is sold by the growers in the villages.¹ This fact is primarily responsible for the establishment of a chain of middlemen between the grower and the consumer. Apart from marketing proper, a middleman often performs certain allied or subsidiary functions as well. For example, he may undertake the cleaning and the subsequent sorting of the fibre. He generally provides transport as well as storage for jute. Clearly, he must invest some capital to finance these activities. Thus, the risks assumed by him in the course of his business are quite formidable. He may not succeed in selling at a price that will compensate him for his enterprise; or, the fibre may deteriorate, get damaged or be destroyed during storage or transit. A middleman, therefore, performs many functions—e.g. assembling, financing, storage, sorting, transportation, etc.—which are not included at present by the growers in their operations, but which are inseparably bound up with the proper sale and distribution of jute fibre.

2. UPCOUNTRY.

93. (a) *Farias*, *Paikars* and *Beparis* are peripatetic dealers who form the first link in the chain of intermediaries in the loose jute trade. Their functions are more or less the same, but *beparis* usually work on a larger scale than *farias*. These are the names used to describe them in most of the districts of Bengal and Assam; in North Bengal and parts of Purnea, however, they are called *paikars*. Many of them belong to the cultivating classes and in addition take up trading in jute. They go from village to village, even from door to door, making purchases. They collect fibre from villages and country markets and carry it to the assembling or baling stations whence it is despatched to Calcutta or other consuming or export centres. They operate individually, in many cases using their own capital. For the purpose of this review, the intermediaries of this type are called free lance *beparis*, and the proportions of the marketable surplus handled by them in various districts are noted in the table below. In Bengal, these dealers handle approximately 40 per cent. of the total marketable surplus of jute. The balance

¹ Cf. Table XXXIII infra.

TABLE XXXI
*Proportions of the Marketable Surplus of Jute handled
 by Free lance Beparis.*

Provinces	Percentage	Principal jute districts	Percentage
Bengal			
East	49	Dacca Mymensingh Tippera	58 23 50
North	40	Rangpur Jalpaiguri Pabna	24 14 53
West	20	Hooghly 24 Parganas	24 25
Bihar	40	Purnea	40
Assam	78	Goalpara Nowgong Sylhet	83 97 40
Orissa	35	Cuttack	35

Source—Marketing Enquiry.

is brought to the baling centres by (a) other *beparis*, who either operate with money advanced to them by various buyers, or who are employed by large traders, *i.e.* *araidars* or balers, on a commission basis, and (b) the salaried men of the buyers. They collect fibre from villages and country markets and carry it to the assembling or baling stations whence it is despatched to Calcutta and other consuming or exporting centres.

94. (b) *Dalals (Brokers)*—They are not found in all the upcountry markets, but operate in most of the important baling centres. A *dalal's* main function is to bring buyers and sellers together, but in the jute trade he acts primarily on behalf of the buyer. *Dalals* remain in the secondary markets all the time, and do not go into the interior of the districts. Various buyers, generally *kutchas* balers, inform them of their individual requirements, after which the *dalals* meet the sellers coming from the countryside and take them to the prospective buyers. Brokerage is, in the first instance, paid by the buyer but it is deducted along with other market charges from the sale proceeds of the jute. From enquiry it was found that in the jute trade, *dalals* do not

occupy an entirely independent position, as they have more to gain by satisfying the buyers than the sellers.

95. (c) *Aratdars (Commission Agents and Merchants)*—The term '*aratdar*' is used rather loosely in the jute trade and is taken to apply to dealers of all kinds, ranging from small intermediaries to large *kutchas* balers. But, correctly speaking, an *aratdar* is a middleman operating between sellers—growers or peripatetic dealers—on the one hand, and buyers—balers and mills—on the other. Although he performs the transportation and assembling functions like other dealers engaged in the jute trade, the *aratdar's* importance lies in financing the *beparis* and in undertaking the storage of fibre. *Aratdars* are principally established at baling centres. In the case of *daisce* districts, however, where no baling is done, they operate in larger primary markets.

96. It is desirable to distinguish between the various types of *aratdars* as there is a possibility of confusion, particularly in those markets and districts where more than one kind of *aratdar* operates. For example, in three important jute markets of the Murshidabad district—Lalgola, Kasimbazar and Beldanga—the *aratdars* buy and store jute on their own account: they are locally called '*farias*'. In a fourth market, Dhulian-on-Ganges, the *aratdars* purchase and store fibre on behalf of outside buyers. And, in Jiaganj, the fifth big market of the district, the *aratdars* operate purely as commission agents, both for the sellers and the local buyers. They do not store for any party and actually perform the functions of brokers. Thus, there is no uniformity either in the nomenclature of these traders or in the functions performed by them. An attempt is, however, made below to classify *aratdars* according to their activities and the order of importance—

- (i) merchants (i.e. independent buyers and storers),
- (ii) agents of outside buyers,
- (iii) agents of local buyers, and
- (iv) agents of sellers.

97. (i) *Merchants*—Such *aratdars* predominate in most of the jute growing areas. In parts of Mymensingh, Murshidabad and Purnea (Bihar) districts, they are locally called *farias* to distinguish them from *aratdars* who function purely as commission agents. A merchant of this type is primarily a speculative dealer. He generally owns a fair amount of capital, or borrows from money-lenders if necessary, and also receives advances of money from balers for the purchase of jute. He usually finances

TABLE XXXII

Various Functions of Aratdars in Representative Markets.

Merchants	Agents for outside buyers	Agents for local buyers	Agents for sellers
Mymensingh Bhairab Bazar Kishoreganj Ramamritganj	Dacca Jaydebpur Belaba Raipur Udhabganj Gopaldi Baira	Mymensingh Ki-horeganj Madhuakhali	Dacca Narsingdi Raipura Nitaiganj Sitalakhya Narayanganj Dighirpar
Pabna Bera Serajganj	Tippera Matlab Bazar Nayergaon Majhiara Fandauk	Dacca Narsingdi Narayanganj Baira Ghior Serajdikhan Dighirpar Belaba	Tippera Majhiara
Tippera Chandpur Hajiganj		Tippera Kuthirbazar Chandura	Nadia Bhairamara Alamdanga Kushtia
Dacca Kapasia Narsingdi Narayanganj	Rajshahi Naogaon	Murshidabad Jiaganj Dhulian	Hooghly Sheoraphuli
Rajshahi Rajshahi	Nadia Munshiganj		
Rangpur Saidpur Kurigram	Rangpur Kurigram Bamandanga Naldanga		
Malda Tulsihatta Shamsi	Hooghly Sheoraphuli		
Murshidabad Lalgola Kasimbazar Beldanga	Backerganj Babuganj		
Hooghly Sheoraphuli			
Nadia Poradaha Meherpur			
Nowgong Haibergaon.			

NOTE—Names of districts appear in bold letters.

Source—Marketing Enquiry.

beparis who purchase jute and then supply it to him. These *aratdars* own *golas* (godowns) and store jute on their own behalf.

98. (ii) *Agents of outside buyers*—The second largest group of *aratdars* functions as commission agents. The smaller Calcutta buyers and the outside *kutchia* balers who operate in some secondary markets for a few months only, may not consider it worthwhile to open individual offices there. They, consequently, appoint local *aratdars* to negotiate purchases, arrange labour, provide storage accommodation, etc. Briefly, the functions of such *aratdars* in most of the upcountry markets are to help the representatives of outside buyers in their purchases and to store the jute till it is required by the owners. For their services, the buyers pay the *aratdars* at a consolidated rate of six pies to one anna per maund inclusive of purchasing commission and storage charge.

99. (iii) *Agents of local buyers*—Wherever *dalals* are found, the local balers generally buy through them. In some of the other markets, however, the *aratdars* act as commission agents for the local buyers, but do not normally store for them. Thus, they actually perform the functions of brokers and not of independent merchants. The result of this is that in the secondary markets, a seller, whether a grower or a *bepari*, can seldom approach a buyer directly. He has to proceed through a *dalal* or an *aratdar*, or both. A *dalal* is solely a broker and has no *locus standi* in the transactions, whereas an *aratdar* is an agent and can complete the deals on behalf of his principals.

100. The usefulness of *aratdars* to local buyers lies in the fact that they are in constant touch with the sellers. Moreover, it is not convenient for the balers and other big buyers to purchase the small quantities of fibre generally brought for sale by the country people. Further, the *farias* and *beparis* require advances in order to purchase fibre in villages, but the balers are hesitant to lend freely to these dealers unless the loans are considered absolutely secure. Therefore, when they are financed by the *aratdars*, the intermediaries are bound to take their fibre to the latter and not direct to the buyers. The employment of *aratdars* by the local buyers may, again, be due to the prevailing market custom.

101. (iv) *Agents of sellers*—Lastly, there are some *aratdars* who act on behalf of sellers, and usually have long-standing relations with *farias* and *beparis* operating in the countryside.

They often advance money to the latter, with the result that these intermediaries take their fibre to the *araldars* who are in constant touch with the buyers. If, on reaching a market, such a seller finds the price of jute to be rather low, he is at liberty to store his fibre with the *araldar*, sometimes without any additional charge. In such a case, the seller may either stay until his fibre is disposed of, or he may go away and entrust the sale of his jute to the *araldar*. The sellers have to pay the *araldars* a consolidated fee of one to two annas per maund, being inclusive of selling commission and storage charge.

102. (d) *Kutchā balers*—Up to the secondary market stage, jute is handled by the growers, *beparis* and *dalals* in loose form, made up into bundles of varying sizes and weights.¹ After reaching these markets, the fibre is normally packed into what are commonly called *kutchā* bales. This is a type of packing used extensively in the internal trade, the jute being compressed to a relatively high density by means of hand or power screw presses.² The *kutchā* balers undertake the preparation of jute for sale in the terminal market (Calcutta) and to mills and *pucca* balers. The functions involved therein are, firstly, the selection of the unassorted jute into the established commercial grades,³ and secondly its packing into *kutchā* bales. Broadly speaking, the term '*kutchā* baler' embraces all dealers who own or hire establishments upcountry for preparing *kutchā* bales. The functionaries of this type, however, may be grouped under the following three categories.

103. (i) *Merchants or firms of essentially local importance*—These are generally small concerns which do not ordinarily have branches at other places. Numerically, they form the majority of the *kutchā* baling fraternity, and their individual turnover ranges from about 5,000 to 30,000 or 40,000 mds. annually. While usually they market their goods in Calcutta—Cossipore and Hatkhola—not infrequently they sell to the bigger balers of their own locality as well.

¹ *Vide* Ch. II, Sec. B 4, *supra*.

² *Kutchā* bales weigh 1½, 3, 3½ and 4 mds. each. See Ch. IV, Sec. A 3 (a) (iii) *infra*.

³ *i. e.* the class under which each standard of quality is packed. The present grades are Top, Middle and Bottom. See Ch. V, Section D, 2, *infra*.

104. (ii) *Large European and Indian baling firms*—Most of these have their head offices in Calcutta, and through out-station agencies exert considerable influence over the marketing of jute. It is customary for these firms to maintain a few central baling establishments at important markets, e.g. Narayanganj, Chandpur, Sarisabari, Charmugaria, etc., to which are attached a number of sub-agencies located at primary and smaller secondary markets. The fibre purchased by these agencies is either selected and baled there or is sent in loose form to the central stations. Some of these firms undertake *pucca* baling as well and sell directly to mills and exporters.

105. (iii) *Representatives of jute mills*—A few of the European and Indian mills have established buying agencies at the large baling centres in East and North Bengal where they operate on the same lines as the larger baling firms. All quantities purchased are selected, baled and despatched to the mills controlled by their principals.

106. Practically all the jute from East and North Bengal, Bihar (Purnea) and Assam passes through the hands of *kutch* balers. The case of jute deriving from the *daisee* districts around Calcutta is, however, different. As there are no *kutch* baling arrangements in those areas, *daisee* jute goes from the villages and primary markets direct to the terminal market—Shambazar—and almost all is bought by *pucca* balers for export.

107. (e) *Pucca balers*—A few European and Indian firms undertake *pucca* baling in some important secondary markets—Narayanganj, Serajgunj, Chandpur, Sarisabari, Haldibari, Saidpur and Kishenganj (Purnea, Bihar). They secure jute in the same manner as other purchasers. After selection and assortment, the fibre is packed by means of hydraulic presses into bales of high density, measuring $10\frac{1}{2}$ c.ft. and weighing 5 mds. or 400 lbs. net each. These are called *pucca* bales, and are intended for export. Normally the mills in India do not buy jute, except cuttings, in the form of *pucca* bales.

3: TERMINAL MARKETS—CALCUTTA.

108. A terminal market is a market at which most of the produce from different areas is assembled prior to the final stage of distribution either to local manufacturers or for export. Calcutta may, therefore, be regarded as the terminal for jute as it is here and in its neighbourhood that the mills, consuming the major portion of India's supply of jute, are located. Moreover,

Calcutta is also the centre of the export trade.

109. (a) *Aratdars (commission agents)*—This type of trader is a counterpart of the *aratdar* operating upcountry, but does not normally buy or store jute on his own account. *Aratdars* in Calcutta act primarily as agents of *kutchā* balers upcountry and undertake to store their jute until such time as sales can be arranged. The principal Calcutta markets where *aratdars* are established are Cossipore, Hatkhola and Shambazar. Jute arriving in Cossipore and Hatkhola is packed in *kutchā* bales, while that reaching Shambazar is made up into drums.¹ All jute thus marketed is termed “loose jute,” and the markets in question are known as “loose jute markets” as opposed to the market for *pucca* bales. The term “loose jute” is applied to all jute which has not been packed in the form of *pucca* bales. The use of the expression is, however, mainly confined to the terminal markets in Calcutta.

110. The rates of *aratdari* charged in Calcutta differ slightly and include commission agent's fee (i.e. *aratdari* proper), *dalal's* brokerage as well as (occasionally) a charge for storage. Thus, while in Cossipore and Hatkhola, consolidated amounts of 1 anna 9 pies and 2 annas per maund respectively are charged by the *aratdars*, in Shambazar 4 annas per md. have to be paid by the sellers.²

111. The commission agents operating in Cossipore are locally referred to as “sellers” while in the other markets they are known as *aratdars*. Transactions take place in the goods-shed of the Cossipore railway station, and the fibre is usually sold soon after arrival. Thus, storage in that market is the exception rather than the rule. The ‘sellers’ do not generally own godowns or hire them permanently but make temporary arrangements for storage when occasion arises.³ Conditions in the other two markets, Hatkhola and Shambazar, however, are just the reverse: separate markets for juts have been established, permanent arrangements for storage are made by the *aratdars* and the fibre is regularly stored, if only for a few days.

112. (b) *Dalals (Brokers)*—Their function is to negotiate sales and purchases. In Cossipore market, brokers are employed

¹ Packages of jute hand-packed to the shape of a drum weighing more or less one maund each.

² Cf. Table XXXVII *infra*.

³ See Ch. III, Sec. D 1 (a) *infra*.

by 'sellers,' but in Shambazar and Hatkhola they are engaged by buyers. Paid in the first instance by the party employing them, ultimately it is the sellers upcountry who have to bear the expense. The brokers operating in these markets are Indian; they receive brokerage at the rate of 6 pies per maund. European brokers act as intermediaries in transactions in loose jute between mills and presses, on the one hand, and *kutchā* balers on the other. They do not frequent the markets themselves, but visit the various offices. The Indian underbrokers attached to their firms secure offers from Indian merchants. The European brokers call also on the bigger Indian balers, but usually it is the underbrokers who make contracts with the Indian merchants.

113. Broking transactions are conducted under two forms of contract, viz. 'direct' and 'principal.' Under the first, one party agrees to deal directly with the other, and the brokers are not responsible for any loss incurred due to the non-fulfilment of contracts. The brokerage for this type of contract is one per cent. of the value of jute and is paid by the seller. When the contracting parties do not desire to disclose their identity, or if one does not consider the other financially sound, brokers of good standing act as buyers for one party and as sellers for the other. In such cases, the brokers perform the function of dealers and are responsible for the fulfilment of contracts. They usually deal with parties which are financially sound. The brokers undertake the responsibility of acting as buyers and sellers merely to earn brokerage, which for this type of contract is one and a quarter per cent. payable by the sellers.

114. (c) *Pucca balers and mills*—The pucca baling industry is mainly established in Calcutta but, as already mentioned, a certain amount of *pucca* baling is also undertaken at a few important upcountry markets. Many of the large *pucca* balers in Calcutta obtain their supplies of jute through their own agencies in the principal markets upcountry. *Pucca* balers who do not purchase directly from the growing areas, obtain their requirements in the Calcutta loose jute markets where they constitute the largest buyers of loose jute. It is estimated that about 98 per cent. of the total arrivals in the loose jute markets of Calcutta are bought by this section of the trade.

115. Normally, the jute mills do not enter the loose jute markets in Calcutta but may occasionally do so when supplies of a particular type of jute are required or when they are "short"

of fibre. Generally, the mills obtain their jute on the basis of forward delivery contracts direct from *kutch*a balers through the medium of brokers.

116. Again, local firms which are engaged solely in the purchase of jute with a view to reselling to mills and shippers, do not normally buy in the Calcutta markets. Only in exceptional circumstances—e.g. when they have to deliver jute against forward contracts of which they may be "short," or for speculative purposes—do they purchase loose jute in Calcutta.

C. MOVEMENT OF JUTE—UPCOUNTRY

1. PROPORTIONS SOLD BY GROWERS.

117. The extent of monthly sales of jute by the growers has been discussed previously, and it was shown that questions of communication and finance were mainly responsible for the early sales.¹ It appears from the results of the Marketing Enquiry that in 1937-38 the growers sold, on an average, 75 per cent. of their marketable surplus of jute at villages, 20 per cent. at primary markets and *hats* and 5 per cent. at secondary markets. Details relating to the various jute growing areas are given below.

TABLE XXXIII

*Percentages of Marketable Surplus of Jute Sold by Growers at Various Points in 1937-38***

Jute growing provinces	Villages	Primary markets and <i>hats</i>	Secondary markets (baling centres)
Bengal			
East	81	15	4
North	75	18	7
West	57	31	12
Average	76	18	6
Bihar	69	negligible	31
Assam	69	25	6
Orissa	59	28	13
All-India average	75	20	5

** The figures represent the weighted averages of the sales in various districts. For details, see Appendix E.

Source—Marketing Enquiry.

¹ *Vide* Ch. II, Sec. D, *supra*.

The factors responsible for the sale of such a large portion of growers' jute at villages are unsatisfactory communications, insufficient finance, the smallness of the marketable quantity, the diversity of weights, the presence of intermediaries—their practices and impositions—and the storage difficulties in markets.

118. (a) *Communications*¹—Over the greater part of East Bengal and Assam, and in some tracts of North Bengal, the principal means of transport is by water. Communication is easy during the rains, but a certain amount of risk is incurred from floods and storms in the months of July, August and September. The jute sold in secondary markets during these months is mostly transported by intermediaries in big boats and not by the growers in their small and frail craft. After the water in low lying areas has dried up by October or November, the majority of villages—which had been connected with each other through the inundation of *khals* and *bheels*—lose direct contact with the baling centres. In such cases, transportation from villages is undertaken by means of carts or pack horses to the nearest river whence jute is carried by boat to baling centres. As it is not possible for ordinary cultivators to make such arrangements, they sell in villages to *beparis* who have the resources to effect easy and cheap transportation.

119. In the rest of Bengal and in Bihar and Orissa, on the other hand, water transport is insignificant, and road and railway communications are more common. The average cultivator, however, seldom transports his jute to market by railway, and *pucca* roads are far too few to help the agriculturists materially in the movement of their produce. Comparatively speaking, Assam has more roads than Bengal and the surface is normally better, but even there the roads serve the villages to only a limited extent. It will thus be seen that the absence of good communications greatly impedes the disposal of jute in the larger markets, and so the growers must either sell their fibre in the villages or take it to neighbouring *hats* or primary markets which are easily accessible. Owing to the difficulties of communications, and also on account of their inability to provide suitable means of transport, cultivators usually sell jute at villages and *hats* in small quantities ranging from 20 to 40 seers at a time.

120. (b) *Finance*²—The choice of the place of sale is,

¹ See also Ch. II, Sec. D 2, *supra*.

² See also Ch. II, Sec. D 3, *supra*.

again, influenced by the financial position of the peasant. According to the Enquiry, when growers borrow from intermediaries they undertake to sell their fibre to the creditor dealers, with the result that when the *farias* and *beparis* go round the villages buying jute, the debtors have to sell to them locally at four to eight annas per md. less than the market price. This practice is quite common in North and West Bengal and in Purnea (Bihar). In some of these areas, however, prices are often fixed by the creditors at the time of lending money to the cultivators.¹

121. (c) *Quantity available with individual growers*—An average grower produces ordinarily about 22 maunds of jute, and often less; and, as some of this fibre is retained for domestic consumption, the marketable surplus is still less.² Moreover, all his jute is not ready for sale at the same time as harvesting takes place piecemeal with the result that supplies for marketing are erratic. Not having much fibre in his possession at any time, the desire to sell in the big markets is reduced accordingly. Consequently, more jute is sold by growers themselves in villages and primary markets than in secondary markets.

122. (d) *Diversity of weights*³—Furthermore, there is a bewildering variety of weights in the different parts of the jute growing districts, the standards at which jute is weighed by buyers ranging between 60 and 120 tolas per seer. This subject will be discussed in detail in a subsequent chapter, but it may be pointed out here that diversity of weights makes it difficult, if not impossible, for the illiterate growers to compare the village prices with those prevailing in markets which might be based on a different standard. Besides, cultivators as a class, and even *farias* and *beparis*, reported that overweighing was commonly practised by buyers in the markets. Very often the method of weighing has been reported to be such as to create suspicion in the minds of sellers. Thus, another check is provided to the growers' desire to sell his produce in secondary markets.

123. (e) *Intermediaries and arbitrary market charges*—The existence of various intermediaries in secondary markets—described in the preceding section—and the charges and allowances paid by sellers there—discussed in the succeeding section—are additional handicaps to jute growers. People selling in those

¹ See Ch. III, Sec. F 1, *infra*.

² Cf. Ch. II, Sec. C I, *supra*.

³ See Ch. VIII, *infra*.

markets do not very often meet the actual buyers as transactions are generally arranged through commission agents or brokers. The villagers, therefore, remain doubtful whether they have been given a fair deal. Their antipathy to sales in secondary markets is increased still more when they are asked to pay certain charges and allowances as such charges are generally non-existent in villages and are purely nominal in primary markets and *hats*.¹

124. (f) *Storage*²—Another obstacle to the sale of jute in the secondary markets by growers is that ordinarily no storage facilities are available to them there. The *kutchā* balers, being the buyers themselves, cannot be expected to store cultivators' jute for a rise in price, nor can those *aratdars* who buy on behalf of balers. Owing to long standing relations and financial dealings with the *farias* and *beparis*, balers and *aratdars* sometimes store the jute belonging to these dealers. Therefore, if the growers who take their fibre to these markets do not consider the prices favourable they have no option but to sell at the low price offered, or to take their produce back home. These alternatives involve the owners either in financial loss or a waste of time and considerable hardships.

2. DESCRIPTION OF MARKETS AND METHODS OF TRANSACTING BUSINESS.

125. The upcountry markets may be divided into three categories (a) the village, (b) primary markets including *hats*, and (c) *kutchā* baling centres (secondary markets). *Zamindars* hold proprietary rights in villages. The plots of land where *hats* are held, and where the *aratdars* and *kutchā* balers have their godowns and offices, also usually belong to the *zamindars*. Some markets, however, are situated on *Khas Mahal* (crown land) or on land owned by the railways. The owners of land generally charge fixed rent for the individual plots; and, in addition, *zamindars* sometimes levy a toll on the commodities sold in the various markets.

126. (a) *Village markets*—There are no special markets for jute in villages. The general practice is for peripatetic dealers to visit villages and to transact their business with growers individually. In one place only—Raiganj, district Dinajpur—it was reported that all the sellers of the village assembled and

¹ There are signs of gradual disappearance of these impositions.

² See Ch. VI, *infra*.

met the buyers at one spot and bargained jointly. No secrecy is maintained regarding the negotiations, and after a price has been mutually settled, the jute may either be taken over by the buyer at once or delivery may be deferred until the necessary transport arrangements have been made. Weighing is undertaken at the time of actual delivery and is normally done at the door of the seller. Payment is usually made in spot cash unless a seller has borrowed from the buyer or has permanent financial relations with him. In the last two cases, the time and the mode of payment depend upon mutual understanding. The main feature of village sales is that the buyer approaches the seller. 'Under the cloth'¹ and auction systems found in other parts of India are not generally practised.

127. (b) *Primary markets and hats*—In the jute trade, primary markets may be regarded as consisting of the larger villages at which well-to-do *beparis* and representatives of *kutchā* and *pucca* balers operate as buyers and where there is usually a certain amount of storage accommodation. Such markets also serve as collecting stations for traders who bring their purchases of fibre from the neighbouring areas and then despatch it to their principals in secondary markets.

128. A *hat* is a periodical market, generally held twice weekly at important villages where agricultural and market garden produce, poultry, small handicraft and other articles of local utility are sold. It is interesting to note that contrary to the custom in many other provinces, barter is not practised either in the *hats* or markets. *Hats* are ordinarily held in the open air and sellers spread their goods on the ground. These periodical markets are well patronised by growers and small *beparis* while the buyers usually consist of the prosperous *beparis* and the representatives of balers and *aratdars*.

129. In addition to these two kinds of markets, large balers frequently maintain 'out-station agencies' in the rural areas for the purpose of buying jute. These agencies usually utilise *aratdars'* godowns where jute can be stored pending despatch. In some cases, assortment and baling are also undertaken.

130. The difference between these three types of rural markets is that while in a primary market transactions can take

¹ Described in detail under 'Terminal Markets' in Ch. VII, Sec. A 2 (b), *infra*.

place every day, in *hats* business is possible only on the fixed market days, and the 'out-station agencies' serve those buyers only who maintain them. Otherwise, the methods of transaction and price fixation are the same. The buyers assess the quality of fibre and the extent of excess-moisture, if any, by opening up a few bundles. Afterwards, the prices are settled individually between buyers and sellers, no secrecy being maintained about the terms. 'Under the cloth' and auction systems are not usually practised. There is some competition among the buyers present in such markets, particularly if the demand for jute is brisk at the time. Thus, the sellers obtain prices higher than those prevailing in the villages. Again, as buyers in primary markets save transport expenses from villages, they can afford to increase prices to a corresponding extent. But, actually the total gain accruing to the growers from such sales is not substantial as they dispose of only small quantities there.

131. The real importance of primary markets and *hats*, however, lies in the fact that they provide ready markets for jute. The peasants can take their produce there knowing that they are sure to get a buyer. Even if, on some occasion, prices happen to be unfavourable and a grower be hard pressed for cash, he can sell a maund or less of fibre in *hats* and keep the rest for disposal at a later date. This convenience of sale is not to be found in villages where buyers are not present at all times. Nor is it worthwhile for growers to travel longer distances to secondary markets for the purpose of selling small lots of jute. Thus, the country markets prove very useful to the agriculturists as a whole.

132. (c) *Secondary markets (baling centres)*—As this term is frequently used in a vague manner, for the purpose of this report and in order to distinguish it from primary and other markets, a 'secondary market' has been interpreted as a place where baling is done. This meaning has been deviated from in the case of Sheoraphuli (Hooghly district) and the terminal markets of Calcutta, because they are important markets and receive jute direct from the *daisee* areas which are not served by *kutchas* baling stations. Secondary markets are usually located at places where communications are good and where large and regular supplies of jute are assured. They are scattered over the jute tracts of East, North and parts of West Bengal, Assam, Bihar and Orissa. Most of them have been established for

many years and have grown in a haphazard manner. In the big secondary markets of East Bengal, both European and Indian balers are established, otherwise in the majority of markets Indian balers alone operate. The information collected during the Enquiry indicates that about 70 per cent. of the *kutchā* baling presses belong to Marwaris,¹ who within the last 25 years have ousted to a great extent the Bengalee balers.

133. The chief buyers in these markets are *kutchā* balers who purchase their requirement of jute from *farias*, *beparis* and *aratdars*, and occasionally only from growers. Transactions take place on an individual basis, and there is no collective or secret bargaining, nor is there any system of auctioning fibre. The usual method of buying jute is on the basis of an estimation of the grade outturn, this is known as 'buying on estimation.' In order to ascertain the approximate proportions of the different grades of jute in a lot,² a few bundles are opened at random and examined by the buyer or his *jachandor* (assorter). Having assessed the probable outturn in terms of 'Top,' 'Middle' and 'Bottom' (or, the particular commercial grades which happen to be current), any excess moisture is appraised by 'feel' and a flat-rate price is finally offered by the prospective buyer. In several important markets of East and North Bengal, however, buying is carried out on the basis of actual grade out-turn.³ This system is generally adopted when the balers are dealing with their own brokers who have previously guaranteed to supply fibre of certain grades, and also when dealing with new *beparis* who have still to prove their reliability. Again, the sellers are sometimes given the choice of checking the price offered by actual assortment if they consider the buyers' estimation to be low. When this is allowed, the sellers' jute is taken to the godown and assorted into the grades packed by the buyer, the charge for so doing being paid by the latter. After a price has been mutually agreed upon, jute is weighed and delivery taken. Payment is then made, generally in cash, unless the sellers have permanent financial arrangements with the buyers. The latter are perfectly justified in opening a few bundles and examining the contents

¹ Deriving from Marwar, a district in Rajputana.

² See Ch. V, Sec. C 2, *infra*.

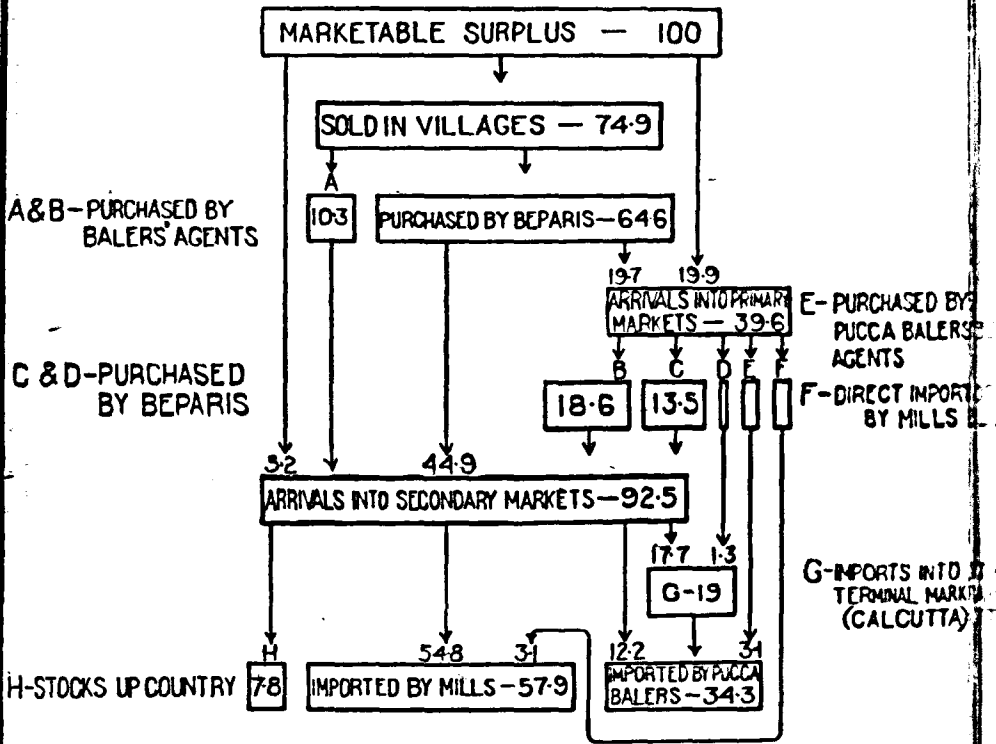
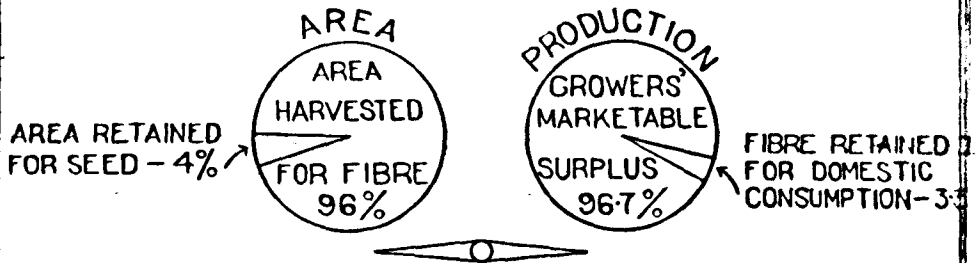
³ Narayanganj, Narsingdi, Chandpur, Serajganj, Gaibandha, Chauhāni, etc., are the instances of prominent markets where this practice prevails side by side with the method of "buying on estimation."



Baler buying on estimation

MOVEMENT OF JUTE.

SEASON - 1937-38.



before making the final offer, a practice of which advantage is sometimes taken by the buyer. It was reported that, after the jute had been spread out, the buyer, realising that the seller was likely to part with the fibre at the price offered rather than load up his cart or boat and take it back home, often bid a low price. The chances of a seller getting better prices at other *arats* were said to be remote.

134. As mentioned earlier, the two main functions performed by *kutchā* balers, are assorting and packing. When jute is intended for mills in India—which consume 55 to 60 per cent. of a year's crop—it is graded in accordance with the standards which have been fixed and agreed to by the trade generally. In many cases, *pucca* balers stipulate when buying fibre that it be packed in accordance with the prevailing standards. Sometimes, however, they also purchase loose jute packed according to *kutchā* balers' own private standards of quality. If the jute is intended for sale in the terminal markets of Calcutta, it may be packed according to the current trade standards, *kutchā* balers' own marks or as an average quality called *garsat* in North Bengal and Bihar. The grading done by *kutchā* balers is an indication to mills and presses of the quality of fibre they have purchased. It also facilitates selection for batching in mills and the final assorting in presses.¹

135. It is at the baling centres that the different lots of jute marketed by the growers and peripatetic dealers in an unsorted condition, lose their identity and, after being packed by the *kutchā* balers, assume special trade significance. The secondary markets may, thus, be considered the most important link between the producers and the ultimate consumers. Accordingly, the villages are affected to a greater extent by the prices and market practices prevailing in such centres than by the conditions obtaining in the Calcutta markets where the fibre is sold on the basis of a price for each grade.

3. ASSEMBLING OF JUTE AT VARIOUS POINTS.

136. The proportions of the marketable surplus of jute sold by growers at different places, and the factors which govern these sales have been discussed earlier.² The diagram on the opposite page illustrates the assembling of jute at various points upcountry and its distribution to balers and mills as ascertained

¹ See Ch. V, Sec. C 3, *infra*.

² See Ch. III, Sec. C 1, *supra*.

by the Marketing Enquiry. *Farias* and *beparis* are the principal buyers in villages, but often *kutchā* balers extend their area of operations by sending agents to obtain jute direct from the growers. Thus, in 1937-38, these agents bought 10.3 per cent. of the marketable surplus and took it straight to secondary markets, while the total purchases by *beparis* and *farias* amounted to 64.6 per cent. of the marketable surplus, 44.9 per cent. being sold by them direct at secondary markets and 19.7 per cent. at *hats*, primary markets and out-station agencies. The growers themselves sold 19.9 per cent. in *hats* and primary markets which, in all, received 39.6 per cent. of the marketable surplus. The buyers in these markets may be grouped in five distinct classes, the first in importance being the agents of *kutchā* balers who in 1937-38 bought 18.6 per cent., mainly at primary markets and at their own out-station agencies. The other big group is composed of *beparis* who usually sell to *kutchā* balers. In 1937-38, their purchases at *hats* and primary markets amounted to 13.5 per cent. Sometimes, jute mills also—particularly those in Bihar—buy a part of their supplies in these markets; during the season under review, 3.1 per cent. of the growers' surplus fibre was purchased by the mills. Similarly, the *pucca* balers of Calcutta received 3.1 per cent. direct from the *hats* and primary markets of *daisce* districts. And, the remaining 1.3 per cent. was bought by the *beparis* of those areas and sold at the Shambazar market through the local *aratdars*.

137. In 1937-38, the arrivals of jute into secondary markets were as under—

From villages, through growers,	5.2 % of the marketable surplus.				
" " " <i>beparis</i> ,	44.9	"	"	"	"
" " " agents,	10.3	"	"	"	"
" <i>hats</i> , primary					
markets, etc., " agents,	18.6	"	"	"	"
" " " <i>beparis</i> ,	13.5	"	"	"	"

Thus, in all, the secondary markets received 92.5 per cent. of the marketable surplus. The distribution of the fibre took place in the following manner: 54.8 per cent. and 12.2 per cent. were supplied to mills and *pucca* balers respectively, 17.7 per cent. was despatched to the loose jute markets at Cossipore and Hatkhola and 7.8 per cent. formed the stocks carried over to the next

season. The direct imports from primary markets having been 3.1 per cent., the total purchases by mills amounted to 57.9 per cent. of the marketable surplus. The *pucca* balers, on the other hand, bought 34.3 per cent. only—3.1 per cent. from the primary markets, 12.2 per cent. from the baling centres and 19 per cent. from the loose jute markets in Calcutta.

D. TERMINAL MARKETS—CALCUTTA

1. GENERAL.

138. Practically all the important commercial activities of Calcutta are located in Clive Street and its environs. The offices of the managing agents of jute mills, of the firms of *pucca* balers and exporters and of the Chambers of Commerce and trade associations are all established in this neighbourhood. The actual markets for loose jute, however, are situated in the northern part of the city at Cossipore, Shambazar, Hatkhola, Fulbagan, Baghbazar, Belgatchia and Ultadanga of which the first three are by far the most important. It is to these markets that the upcountry *kutcha* balers consign their jute to be sold for spot delivery. The fibre purchased in the *mofussil* by mills and presses is invariably sent direct to their railway sidings and riverside jetties and does not pass through the loose jute markets.

139. The jute arriving at Cossipore and Hatkhola is derived mainly from East and North Bengal, Bihar and Assam, and is marketed almost entirely in the form of *kutcha* bales. On the other hand, Shambazar receives its supplies in bundles and drums owing to the fact that the fibre reaching this market is drawn from the *daisce* jute districts around Calcutta where there are no *kutcha* baling facilities. The chief buyers in these loose jute markets are the *pucca* balers. Mills operate there only occasionally as they generally buy direct from upcountry, either from *kutcha* balers or through their own agents, and carry big stocks which absolve them from the necessity of buying in the open loose jute markets. They usually buy large quantities at a time, mostly for forward deliveries spread over a number of months. The purchases of *pucca* balers, however, are regulated according to orders received. They may at times buy fairly large quantities in the expectation of receiving favourable closing orders from overseas, but do not normally accumulate and hold heavy stocks. Thus, the forward delivery purchases of the *pucca* balers are seldom very extensive. Nevertheless, they are regular buyers

of jute for spot delivery and it is for this reason that the *pucca* baling industry predominates in the loose jute markets.

140. *Pucca* balers of yet another type operate in Calcutta. They do not possess their own presses, and their *modus operandi* is to purchase loose jute either in the upcountry or local markets and to make arrangements for selecting and baling it with various press owners. The jute is packed under their own marks which are registered with the Calcutta Baled Jute Association. Such balers sell mostly to exporters.

141. For all kinds of transactions, whether for spot or forward deliveries, the brokers operating in the terminal markets of Calcutta are required to pass written standard contracts between buyers and sellers. Provisions regarding the type of packing, method of transportation, arbitration arrangements, late delivery or default, and other relevant matters—as approved by the Indian Jute Mills Association or by the Calcutta Baled Jute Association—are printed on the contract forms which are adopted for all transactions entered into by the respective members of the two associations.¹

2. LOOSE JUTE MARKETS.

The following is a brief description of the three principal loose jute markets.

142. (a) *Cossipore*—The Cossipore market is of recent origin, and has functioned for about 15 years. It is now the largest loose jute market in Calcutta having grown in importance as a result of its proximity to the baling presses and also because of the special facilities offered by the railway (E. B. R.) authorities who permit bales to be opened for the inspection of buyers before actual sale. During a normal season, the total arrivals in Cossipore amount to about 90 lakhs of maunds, the bulk coming from the North Bengal districts and Purnea (Bihar). The market has no enclosure, and business is transacted in the goods shed of the Eastern Bengal Railway. The *araddars* operating there, locally called 'sellers,' do not ordinarily maintain offices or godowns at Cossipore.² The jute arriving in that market belongs to the upcountry *kuicha* balers who either have their own Calcutta establishments or employ commission agents to arrange for the disposal of their fibre.

¹ A specimen contract form may be seen at Appendix J.

² Their offices are situated mainly in Clive Street and Harrison Road.

143. When jute arrives at the Cossipore goods shed, the owners or the commission agents hand over the railway receipts to their brokers who are authorised to negotiate sales. It is the practice of the buyers' representatives to proceed to the railway shed and inspect the various lots of jute offered. This is done by opening up a few bales, selected at random. After due examination, a price is offered according to the buyer's estimation of quality and of the moisture content. If the bid is acceptable and a bargain is struck, the bales are removed to the buyer's premises and weighed there. Obviously, this practice places the buyer in a very strong bargaining position. It is in fact, quite common for claims to be made for a reduction in the price or for an allowance in kind on the ground of inferiority of quality or excess moisture. This unsatisfactory situation arises from the fact that while the railway authorities permit the bales to be opened for examination, the goods are given free accommodation for 12 hours only, after which is fairly high rate of wharfage is charged.¹ Thus, the owners must either dispose of their goods quickly or leave the jute in the railway shed and pay wharfage pending sale later on. The only other alternative is to transfer the jute to privately owned godowns in the neighbourhood. Since buyers are not usually inclined to leave the railway shed and inspect individual lots in such godowns, sellers are usually eager to dispose of their goods as soon as possible after arrival. For this reason Cossipore may be regarded as predominantly a buyer's market.

144. (b) *Shambazar*—The market is situated in the north-eastern part of Calcutta not far from Cossipore. It is in shape a somewhat irregular rectangle with the offices and godowns of the various *aratdars* extending along the sides. There is a fair amount of open space for the unloading of carts. Dealers in this market are termed *aratdars* and act as commission agents for *beparis* who bring in jute from the *daisee* districts around Calcutta. The *aratdars* have either their own godowns or hire them for the season, and the sellers' fibre is commonly stored there before being disposed of. Thus, the lack of storage facilities does not lead to hurried sales as is the case at Cossipore. No

¹ On the expiry of the 12 hours, wharfage at the rate of 1 pie per md. during the slack season (January to June), and 3 pies in the busy season (July to December), is charged for the first 24 hours. It is increased to 1 anna per maund for the 2nd day and 2 annas for the 3rd and subsequent days both during the slack and busy seasons.

separate charge is made for storage as it is usually included in the commission realised by the *aratdars* from the sellers. Again, in contradistinction to Cossipore, where arrivals are entirely by railway, jute reaches Shambazar by country boats, carts and motor lorries. Intending buyers send their representatives, sorters and brokers to inspect the quality of jute prior to making bids. Bargains are eventually struck after a good deal of haggling between the buyers' representatives and the *aratdars* acting for the *beparis* who may or may not be present. The prices having been settled, the drums are weighed over in the market itself and then transported to the buyers' godowns. It is important to note that once jute leaves the *aratdars'* godowns, their responsibility regarding the quality and moisture content of the lots ceases. This may be considered a reasonable arrangement and is contrary to the practice prevailing in Cossipore. The *aratdars* receive payment within four days of the delivery of jute to buyers. *Beparis* and other sellers from the countryside are generally paid by *aratdars* a part of the sale proceeds at the time of the sale of their jute, the balance being settled later on after the *aratdars* have received payment from the respective buyers. The annual arrivals at this market are approximately 8 lakhs of maunds.

145. (c) *Hatkholā*—This market is situated in Shovabazar Street in north Calcutta. The offices and godowns of the various traders are located on both sides of the street. There is no compound or enclosure. The dealers in this market also are mostly *aratdars*, but there are a few who in addition carry on business on their own account. Arrivals are in the form of *kutchā* bales, the produce being brought close to the market by railway and country boats. The methods of transacting business are the same as those of Shambazar. The annual turnover amounts to about 12 lakhs of maunds.

3. TRADE ASSOCIATIONS.

146. Five Chambers of Commerce are established in Calcutta with the common object of promoting commerce and industry and for the general purpose of safeguarding the interests of their constituents. These are the Bengal Chamber, the Bengal National Chamber, the Indian Chamber, the Marwari Chamber and the Muslim Chamber of Commerce. They are registered under Section 26 of the Indian Companies Act of 1914; in other words, they are of a non-profit-sharing character. To

TABLE XXXIV
Jute Trade Associations in Calcutta.

Name of Association	Affiliated to	Class of Members	Total number of members	Admission fee	Annual subscription	Remarks
Indian Jute Mills Association	Bengal Chamber of Commerce	Owners or Managing Agents of jute mills in India	58 "A" members 15 "B" members	nil	see remarks	The annual subscription is charged on the loomage of each member and the rate is fixed for the ensuing year in each annual general meeting.
Calcutta Jute Dealers Association	do	European sellers or brokers of loose jute	63 individual members (15 firms)	see remarks	see remarks	The amounts of admission fee and annual subscription are fixed for the ensuing year in each annual general meeting
Calcutta Baled Jute Association	do	Firms or persons engaged in the baled jute trade	244	Rs. 1,000	Rs. 32	
Jute Balers' Association	India Chamber of Commerce	Pucca balers of jute	42	nil	Rs. 116	
East India Jute Association	do and Bengal National Chamber of Commerce	Persons and firms engaged in the jute trade	280	Rs. 2,000	Rs. 100	
Calcutta Jute Exchange Ltd.	Bengal National Chamber of Commerce						do	not available	nil	Rs. 132 (Rs. 11 per month)
Bengal Jute Dealers Association	Unaffiliated	Jute dealers and brokers	180	Rs. 25	Re. 0-8-0 per every 1,000 mds. sold to the mills.	
Cossipore Jute Sellers Association	do	Sellers and brokers of jute	252	Rs. 25	Re. 0-2-0 per every railway receipt of over 20 bales.	
Belgatchia Jute Aratdars Association	do	Aratdars and sellers of jute in Shambazar, Belgatchia, and Bagh-bazar markets	80	Rs. 51	Rs. 5	
Hatkhola Baniijya Hitaishini Sabha.	do	Aratdars operating in Hatkhola market	80	Rs. 25	nil	

NOTE—Associations connected with the various aspects of export trade in raw jute and its manufactures will be discussed in the Second Marketing Report.

parent bodies are affiliated various associations formed with the object of establishing a uniform system of sale and purchase in a particular commodity. Jute Associations, however, are affiliated to the first three chambers only.

The following are the more important jute associations, and their functions and constitution are briefly discussed below.¹

- (a) Cossipore Jute Sellers Association,
- (b) Belgatchia Jute Aratdars Association,
- (c) Hatkhola Banijya Hitaishini Sabha,²
- (d) Calcutta Jute Dealers Association,
- (e) Bengal Jute Dealers Association,
- (f) Calcutta Baled Jute Association,
- (g) Jute Balers Association, and
- (h) Indian Jute Mills Association.

The first three are associations of *aratdars* who act as the selling agents of the *kutch*a balers and other owners of jute in the interior. The fourth and fifth are formed of brokers and merchants engaged in the loose jute trade. As their names imply, sixth and seventh are associations of *pucca* balers who may pack the fibre and, in addition, may function as exporters and shippers. The last association comprises almost all the mills engaged in the manufacture of jute goods in India.

147. (a) *Cossipore Jute Sellers Association*—The objects of the association are mainly to promote and safeguard the interests of jute dealers operating in Cossipore market. The membership is open to sellers (*i.e.* the local *aratdars*), buyers and brokers with the proviso that only the first are entitled to vote and are eligible for election to the administrative committee. The admission fee is Rs. 25, and the annual subscription is Re. 0-2-0 per railway receipt for quantities over 20 bales. All matters of dispute between the members of the association are referred to a board of arbitration appointed by the administrative committee. There are 252 members in the association.

148. (b) *Belgatchia Jute Aratdars Association*—This association was formed in 1916 with the principal object of protecting the interests of the *aratdars* (commission agents) operating in the loose jute markets of Shambazar, Patipukur, Belgatchia and Baghbazar. The membership is open to *aratdars*

¹ For institutions conducting trading in futures, see Sec. D 3, *infra*.

² The literal meaning is "association for the advancement of commerce."

only, the admission fee and annual subscription being Rs. 51 and Rs. 5 respectively. There are about 80 members. Buyers wishing to enjoy the concession of making payments a fortnight or even a month after the delivery of jute, are required to register their names with the association by paying an initial fee of Rs. 51. Non-registered buyers must pay for their purchases at the time of delivery.

149. (c) *Hatkhola Banijya Hitaishini Sabha*—This association is composed of about 80 members, who are all *aratdars* (commission agents) operating in Hatkhola market. The members pay an admission fee of Rs. 25, no annual subscription being charged. The objects of the association are, in general, to organise measures for the improvement of trade and, in particular, to protect the commercial interests of the commission agents. The association is run on the same lines as the Belgatchia Association, except that the registration fee for buyers is Rs. 25 only, and that payments are to be made five days after the delivery of fibre.

150. (d) *Calcutta Jute Dealers Association* is a non-profit-sharing registered body. Its object is to guard the interest of its members in so far as their activities in the jute trade are concerned. Membership is open to all Europeans connected with the trade in jute for local consumption, either as sellers or brokers. At present there are 63 members belonging to 15 firms of brokers. Applicants for membership must, in the first instance, be approved by the association. Later, they are proposed for election by two members of the Indian Jute Mills Association, seconded by its committee, and elected by a majority vote of its members. The Indian Jute Mills Association, in their turn, agree not to deal through any European brokers who are not members of this association. The admission fee and the annual membership subscription are fixed at each annual general meeting for the ensuing year. The management of the business of the association is vested in a committee consisting of six elected members. The broker members of the association are not allowed to give a firm offer or to close any business unless they have permission to do so either from buyers or sellers. Members are responsible for the observance of association rules by their Indian assistant brokers.

151. (e) *Bengal Jute Dealers Association* is the Indian

counterpart of the Calcutta Jute Dealers Association. It was organised first in 1926, but did not command much support. Being registered under section 26 of the Indian Companies Act of 1913, it is a non-profit-sharing body. It was reorganised in February 1938, and now has 180 members. Merchants and firms trading in loose jute as well as brokers are eligible for membership. The admission fee is Rs. 25 and the annual subscription is eight annas for each thousand manuds of jute sold to mills. This association is not affiliated to any Chamber of Commerce.

152. (f) *Calcutta Baled Jute Association*—The general object of this association, which is a non-profit-sharing registered body, is the regulation of the trade in baled jute. Membership is open to all firms or persons interested or engaged in the baled jute trade. The admission fee per member is Rs. 1,000 and the annual subscription is Rs. 32. There are about 244 members in the association. They are not allowed to be members of the East India Jute Association, nor can they directly, or indirectly deliver jute to, or receive jute from, that association or any other association of a similar character. It is laid down that a breach of the association rules shall be enquired into by the committee and, in the event of the same being proved, the offending member will be liable either to reprimand, to a fine which may extend up to Rs. 5,000 or to be removed from the membership of the association. The management of the association is vested in a committee, consisting of 3 balers, 3 shippers and 3 brokers, who are elected by the members. The Committee elects its chairman from among its members

153. The marks baled by the members are registered with the association, and the members have the right of leasing their marks to other members. The transaction between members are subject to the rules and conditions embodied in the association's contract forms. The terms of the contract relate to the size of the bales, the time allowed for sending shipping instructions, the method of payment, the extension of delivery date, etc. All matters of dispute regarding the quality and condition of fibre, or the construction of the contract and its fulfilment, etc., are referred to arbitration. Each party in the dispute appoints its own arbitrator and in case either party fails to appoint an arbitrator, the one appointed by the other will be the sole deciding authority. When the matter at issue is of a complex nature, the arbitrators, or failing them the committee, appoint an-umpire to

whom the arbitrators refer from time to time. The arbitrators and umpires, who must be persons engaged in the baled jute trade, are allowed 40 days in which to arrive at a decision: the umpire has the final right of decision. A fixed fee of Rs. 80 is paid to each of the arbitrators and to the umpire by the losing party. Appeals against the decision of the arbitrators or umpire may be made to the committee within 4 days of the award in the case of disputes relating to quality, and within 14 days in other matters. A deposit of Rs. 300 has to be made along with the appeal to cover fees and expenses.

154. (g) *Jute Balers Association*—This too is a non-profit-sharing registered body, and its object is to promote and protect the trade in jute in India. Membership is open to all persons or firms carrying on trade in baled jute in Calcutta. The annual subscription for members is Rs. 116 and no admission fee is levied. There are 42 members who are all Indian balers, though Europeans are eligible for membership. The association has no contract forms of its own, and transactions between members are subject to the terms and conditions of the contracts of the Calcutta Baled Jute Association.

155. (h) *Indian Jute Mills Association*—This association is registered under the Indian Trade Unions Act of 1926 and, as its name implies, represents India's jute mill industry. As such, it wields great influence on the conduct of the loose jute trade in general. The object of the Association is to regulate relations between the members and their employees, and between members and members, and additionally the objects of the association include the following—

- I. (a) To protect, forward and defend the trade of members of the association.
- (b) To impose restrictive conditions on the conduct of the trade.
- (c) To adjust the production of the mills in the membership of the association to the demand in the world market.
- (d) To arbitrate on matters in dispute.
- II. (a) To protect the members of the association against competition.
- (b) To secure the enactment of legislation to the trade.

- (c) To secure the repeal of any legislation or prevent the passing of legislation which is damaging or may in any way damage the trade.
- III. To secure by collective bargaining, or otherwise, advantageous terms of transport.
- IV. (a) To collect, classify and circulate statistics.
- (b) To encourage and finance technical developments in plant and machinery necessary for the manufacture of jute and jute products.
- (c) To encourage and finance the scientific exploration of new uses to which jute can be applied and the discovery of by-products.
- (d) To open out new markets.
- (e) To fix points of custom.
- (f) To adopt common forms of contract.
- V. (a) The establishment of a fund or funds.
- (b) The giving of legal assistance in connection with all or any of the above objects within the limits allowed by law.
- (c) The assistance of, or amalgamation with, other associations or societies or federations of associations or societies, having for their objects or one of their objects the promotion of the interests of the jute trade.
- VI. To do all such other lawful things as are incidental or conducive to the attainment of the above objects or any one of them.

156. Up to 1938, the association had only one class of members who were entitled to all benefits and were bound by all its rules and regulations. But on June 22, 1938, two classes—"A" and "B"—of membership were created with a view to secure stability and security for any working-time agreement reached among the jute mills for the purpose of regulating the production of jute goods in India. "A" class implies full membership of the association. Such members are entitled to all rights and privileges, and are bound by all rules and regulations and the working-time agreements of the association. "B" class membership is of a restricted nature, the members being entitled to all benefits except those for which only "A" class members pay and are, therefore, entitled. "B" class members are bound by all obligations of the terms of all working-time agreements.

Representation on the Committee to the extent of two seats has been accorded to "B" members during the currency of any working-time agreement. The rate of annual subscription of "A" members is determined at each annual general meeting for the ensuing year. In order to ensure exact proportional contribution by all mills, the rate of contribution is assessed according to loomage. The subscription by "B" class members is not to exceed Rs. 50 per annum. Each "A" and "B" member has to make a security deposit in the name of the Trustees of the Association, at the rate of Rs. 100 per loom either in cash or in Government securities. This deposit is liable to forfeiture, partly or wholly, in the event of the breach or non-observance of the rules, bye-laws, and the working-time agreement of the association. Any member desirous of resigning can do so by giving six months notice, but none can resign so long as any working-time agreement is in force. The management and administration of the association are vested in a committee of seven members, elected by the "A" class members from among themselves. The strength of the committee is increased to nine during any working-time agreement by the inclusion of two "B" class members.

157. The association maintains a register called the 'Disapproved List' on which are placed the names of persons or firms with whom the members cannot transact any business. Those liable to be placed on the Disapproved List include such jute mills as are not members of the association, persons transacting any kind of business with such mills, members who act to the detriment of the interests of the association, members who are guilty of breach of contract or of the terms of the working-time agreement, etc. The committee has power to remove any name from this list either at its discretion or on the application of the party concerned. The brokers employed by the members have to comply with the rules of the association framed for the protection of their interest. They will lose all claims to brokerage due from any member if they deal with persons on the Disapproved List. All matters of dispute between the members are brought to the notice of the committee who refer the question to the Advisory Board. This body may decide the matter itself, appoint arbitrators or send it to the Tribunal of Arbitration of the Bengal Chamber of Commerce. All disputes between members and non-members are referred to the last named body.

3. FUTURES MARKET.

158. (a) *Theoretical*—Futures transactions may be undertaken either for the purpose of price insurance—which is commonly known as ‘hedging’—or with the object of pure speculation. The system of forward trading which is a prominent feature of modern trade, exposes the trader to the risk of price fluctuation. Most traders prefer to conduct their business on safe lines and are not usually prepared to take unnecessary risks. They try, therefore, to protect themselves in the trade market by making opposite contracts in the futures market; this type of transaction is called ‘hedging.’ For instance, a manufacturer makes a forward sale involving delivery after, say, 3 months. If, in the meantime, the price of the raw material goes up, his margin of profit will be reduced, or he may actually suffer some loss. To avoid this risk, the manufacturer who contracts a forward sale buys ‘futures’, and thus ensures his supply of raw material at the price on which his sale was based. Should prices rise, he receives the difference between the price at which he bought and that at which the market stands on the delivery date. On the other hand, if prices fall, he can cover his requirements of raw material, pay the difference in price, and retain his profit intact. Futures transactions are, in effect, an insurance against future market fluctuations.

159. The presence of a sufficiently large number of persons ready to assume the risks which the merchants wish to avoid is essential for ‘hedging’ operations, and it is here that the speculative operator plays an important part. Manufacturers or traders usually hold similar views as to future market trends, and in order to carry out a ‘hedge’, it is necessary to find other individuals who hold contrary views. The speculator who buys or sells for the purpose of making profit from market fluctuations supplies this deficiency. In the narrow sense implied here, the term speculator is applied to a person who has sufficient financial resources and can intelligently anticipate in the light of his knowledge and experiences, the future trend of prices. He must be well informed and fully conversant with the various factors which affect prices, such as the actual and potential supply and demand. He is, therefore, an important link in the chain of modern trading and performs an important economic function. When used in the wider sense, the word speculator includes, in addition to the above type, those also who have

slender financial resources and who are merely eager to make quick profits. Such speculators know little or nothing about the factors affecting prices and enter the market purely to gamble, and are little better than a social nuisance. The gambler-speculators may, by their presence in the market, facilitate 'hedging' operations, but there is every possibility of their making a wrong forecast of the fluctuations in price and thus upsetting the market. Moreover, many of them cannot afford to take risks, so their inability to pay their losses may have serious consequences. It is desirable that healthy futures markets should exclude operators with insufficient means and little or no knowledge of the commodities dealt in. Public opinion is divided in regard to the utility of futures markets, but their existence in the important trade centres of the world can be justified, and when well conducted they play a most useful role in modern trade by making futures transactions possible.

160. To sum up, the first essential in a satisfactory futures market is that it should be a continuously liquid market. It should be possible to transact business on all working days, i.e. there must always be buyers and sellers. Secondly, it should be broad enough in scope to accommodate fairly large transactions. If a market is well organized and conducted, trading in large amounts can be undertaken when an occasion arises. A market composed of small dealers is not likely to influence prices nor would it inspire confidence among the public; moreover, it might lend itself to manipulation by private persons who are not connected in any respect with the particular commodity. The third essential feature is the representation of all interests in the market. The producers, processors, exporters, etc., are all affected by the fluctuations in prices, therefore, it is desirable that the different parties operating there should each be in a position to look after its own interests. Fourthly, the transactions in a futures market should take place on the basis of fixed and universally recognised standards. This facilitates the delivery of goods and reduces the chance of disputes. Without this quality, contracts cannot be freely entered into and so the continuity of the market is lacking.

161. (b) *East India Jute Association Ltd.*—Prior to 1912, there had been no organised effort to establish a jute futures market in Calcutta. In that year, however, a start was made by

setting up an exchange, called the 'Jute Bara,' at 68, Cotton Street, ostensibly for 'hedging' transactions, but actually for 'gambling' operations. Owing to certain reasons, however, it ceased to exist soon after the outbreak of the Great War in 1914. It was succeeded in 1916 by the Calcutta Jute (or *Pat*) Association, which proved little better than its predecessor as no delivery was implied in the transactions, which were limited to a minimum of 25 bales. After an adventurous existence, often interrupted by police raids, it was finally suppressed by police orders in 1927.¹ In connection with all futures operations in jute, then and now, the term '*fatka*'—derived from the Marwari word *phatka* meaning speculative business—is commonly used in India, hence '*fatka* market,' '*fatka* prices,' '*fatka* transactions,' etc. The suppression of the *pat* Association provided an impetus for the establishment of a futures market on sounder lines with the result that the East India Jute Association Ltd., was formed in 1927. It was an improvement on its predecessors in that it made provisions for the delivery of jute if desired by the buyer. It did not, however, exclude the gambler-speculators whose operations have a disturbing effect on prices. Moreover, the basis of transactions being *pucca* bales, it did not afford 'hedging' facilities either to producers or to the consumers of loose jute, *i.e.* the mills.

162. In September 1932, the activities of the association and their effect on the jute trade were discussed at a conference, representative of various jute interests, which was convened by the Bengal Chamber of Commerce. The conference appointed a committee—which came to be known as the Jute Futures Market Committee—to report (1) whether a jute futures market was necessary, and (2) if not, whether steps should be taken to render any such market illegal, or (3) to recommend an improved form of jute futures market.² The Committee considered it advisable to reform the jute futures market, and recommended that following the example of the East India Cotton Association, Bombay, the Governing Body of the East India Jute Association should not be selected by the members of that association but by the various trade interests. Other notable recommendations included the modification of the

¹ *Vide* Jute Futures Markets in Calcutta, by M. N. Roy.

² *Vide* Report of the Indian Jute Mills Association, 1932.

terms of contract of the East India Jute Association into conformity with the Calcutta Baled Jute Association contract, the replacement of weekly settlements by fortnightly payment of margins, and the increase of delivery periods from 4 to 6 in a year.¹ The East India Jute Association accepted the above recommendations with the exception of the last one, and changed their bye-laws accordingly in April 1933. The Governing Body, however, could not be reorganised, mainly, because the Indian Jute Mills Association could not see its way to endorse the recommendations of the Jute Futures Market Committee as it considered that they "would not to any material extent, or with any lasting effect, place a check on the speculative and other undesirable features attaching to the existing *fatka* market."² A few other bodies also, which were represented on the Committee, later repudiated its recommendations.

163. Early in 1934, two memorials were submitted to the Governor of Bengal by various jute associations. In the first they made proposals for legislation which would in effect have made it impossible for a futures market to function. In the second, however, they prayed for the suppression, and not the regulation of the futures markets.³ Prominent among the memorialists were—

The Calcutta Jute Dealers Association,
Calcutta Baled Jute Shippers Association,
Calcutta Baled Jute Association,
Jute Balers Association, and
Indian Jute Mills Association.

The other signatories included the baling community up-country and some associations connected with the loose jute trade in Calcutta. The East India Jute Association represented its case in the form of two counter memorials.⁴ The Government of Bengal declined to intervene and suggested that the different associations should invite an expert from Liverpool to advise them in regard to the establishment of a suitable futures market for jute.³

164. In July, 1934, the East India Jute Association

¹ *Vide* Report of the Indian Jute Mills Association, 1933.

² *Vide* Report of the Indian Jute Mills Association, 1933.

³ *Vide* Report of the Indian Jute Mills Association, 1934.

⁴ *Vide* Report of the East India Jute Association, 1933-34.

approached the Calcutta Baled Jute Association offering to make alterations in its bye-laws in accordance with the criticisms made in the two memorials referred to above. The following were the important suggestions made by the association—

1. Limitation of transaction by any one broker to 20,000 bales at a time.
2. All contracts to be in writing.
3. Four delivery months, *viz*, September, December, March and June.
4. No contracts for the delivery month to be entered into after the first of that month.
5. A Board of Control to be set up consisting of one nominee of each of the principal jute interests.
6. Rates for periodical payments of margins not to be higher than the ready rate plus storage charge at four annas per bale per month.*

After consulting the Chairmen of the Associations which were signatories to the memorials to the Governor, the Calcutta Baled Jute Association accepted these suggestions with some modifications. Eventually, a Board of Control was set up in December 1934, consisting of the following 13 members.¹

- | | | |
|---|--------------|--|
| 2 | nominated by | the Indian Jute Mills Association, |
| 2 | " " | the Jute Balers Association, |
| 2 | " " | the Calcutta Baled Jute Association, |
| 2 | " " | the East India Jute Association, |
| 1 | " " | the Calcutta Baled Jute Shippers Association, |
| 2 | " " | the Calcutta Jute Dealers Association, and |
| 2 | nominated | jointly by the Bengal Jute Dealers Association, Marwari Jute Sellers Association, Hatkhola Banijya Hitaishini Sabha, and Belgatchia Jute Aratdars Association. |

165. This Board functioned till August 1935, when the Jute Balers Association withdrew their representation. The representatives of the loose jute trade followed suit early in 1936, and the Calcutta Baled Jute Association resigned from the Board in May 1938, declaring that the activities of the East India Jute Association were harmful to the general interests of the jute trade. The Calcutta Baled Jute Association also decided to

* *Vide* Report of the East India Jute Association, 1934-35.

enforce its rules Nos. 25 and 26, which prohibit the members from tendering or receiving jute to and from the members of the East India Jute Association or any association of a similar character.¹ Later on, in 1938, there were certain discussions between the East India Jute Association and the Calcutta Baled Jute Association. The latter made tentative suggestions wherein it claimed that a majority of seats on the Board of Control should go to the baling section on the ground that baled jute was the basis of transactions. This proposal, however, was opposed by shippers.² There have been no subsequent developments and the Board of Control at present consists of 7 members only as under—

2	nominated by	the Indian Jute Mills Association,
2	„	„ the East India Jute Association,
2	„	„ the Calcutta Jute Dealers Association,
		and
1	„	„ the Calcutta Baled Jute Shippers Association.

166. The association, registered under Sec. 26 of the Indian Companies Act of 1913, is a non-profit-sharing body. Its main objects are the establishment of a jute exchange in Calcutta and the control of its operations. The membership of the association is open to every person or firm who, having a place of business in Calcutta, is engaged in the jute trade. The admission fee, which was Rs. 200 for a founder member, has now been fixed at Rs. 2,000, in addition to which there is a quarterly subscription of Rs. 25. Every member is required to furnish, when asked by the Board, a guarantee for the business of his firm, or deposit in Government securities an amount not exceeding Rs. 50,000. There are 280 members of the association, the majority of which are brokers. Next in importance are the loose jute dealers, shippers and a few Indian mills. The Calcutta Baled Jute Association does not allow its members to join the East India Jute Association, who in their turn have empowered the Board of Control to direct the non-continuation of membership of those who are members of the Calcutta Baled Jute Association. The working, management and administration are vested in a Board of 11 Directors elected by the members of the association. Full controlling authority,

¹ *Vide* Report of the East India Jute Association, 1935-36.

² *Vide* Report of the Calcutta Baled Jute Association, 1937-38.

however, is exercised by the Board of Control already described. The admission to the premises of the association is regulated by the issue of cards. The rules permit the employment of one under-broker by each firm. The under-brokers have to register and pay a fee of Rs. 50, and are admitted only to the premises of the Association but not to the Exchange Rooms. Members doing business for non-members are entitled to brokerage at the rate of half an anna per bale per transaction, buying and selling being regarded as one transaction, when no delivery is given. If delivery is taken, the brokerage is one anna per bale. The under-brokers are entitled to 25 per cent. of the total brokerage.

167. Trading in the Exchange Rooms is permitted between 8 a.m. and 9 a.m. and between 11 a.m. and 5 p.m. on week days, and from 8 a.m. to 9 a.m. and 11 a.m. to 1 p.m. on Saturdays. There is, however, no definite provision for confining trading to the Exchange Rooms only, and so there is a possibility of futures transactions taking place outside the Exchange Rooms at all hours. It should be noted, however, that the bye-laws of the Association strictly prohibit all transactions of a wagering character, such as single and double option business, crop forecasts, etc. The contracts between members and non-members are written by the parties on the official forms of the association. Each member maintains a book, called the Register of Contracts, the form of which is approved by the association, in which are recorded the transactions passing between the members. On the day following a transaction, the contracting parties sign each other's book in token of confirmation. No transactions, whether between members themselves or between members and non-members, are registered with the Association, thus there is no record of the daily turnover of the market.

168. The minimum quantity for a single contract is 250 bales (400 lb. net). There are four delivery months, viz. September, December, March and June. The goods can either be tendered in the delivery months, or the buyers may extend the delivery to the following delivery month. In the latter case, they have to notify the sellers on or before the 15th day of the delivery month and the purchase price is increased by 9 annas per bale. This is considered to be a fair allowance to sellers on account of godown rent and interest. Such

extensions are allowed from one delivery month to another, but not beyond June when deliveries must be given and taken in respect to all outstanding contracts. In between the delivery months, however, the contracts may either be kept alive or terminated at any time. In the former case, the contracting parties pay or receive the difference between the contract rate and the 'clearing rate' fixed by the Board of Control on every alternate Friday. In subsequent settlements, however, the difference between two clearing rates—known as 'margin'—has to be paid or received through the 'clearing house' maintained by the Association. The buyers have the option of sending shipping instructions to sellers for placing the goods alongside an exporting vessel or of taking delivery in their own godowns. In the absence of such instructions, the sellers tender to buyers Delivery Orders in the form prescribed by the Association. The Delivery Orders, which are for 250 bales each, should be in respect of jute stored in godowns situated within the limits of the Port of Calcutta. They must bear the acceptance of a press house owner or agents, or of a bank approved by the Board of Control. This bye-law is intended to prove that the requisite amount of fibre is actually stored in some godown or is hypothecated to a reliable bank.

169. The actual 'First' group marks¹ are the basis of all contracts. Originally, the tenderable marks were those registered with the Calcutta Baled Jute Association, but after the enforcement from 1st July, 1938, of rules 25 and 26 by that body, the tenderable marks in addition to the above are all group marks approved by the Board of Control, and guaranteed equal in quality and condition to actual first group marks.² The sellers have the option of delivering substitute marks which are the marks of the Calcutta Baled Jute Association or those approved as substitutes by the Board of Control. When substitute marks are tendered, the sellers have to pay an allowance of four annas per bale to buyers.

¹ The grade of export quality used by the trade as a basis for price quotation.

² The London Jute Association annually forms groups of such marks of each grade as were found reliable during the preceding season. The marks included in the groups are called 'actuals' and those not so included 'substitutes.' The division is intended to encourage balers to maintain regular and uniform standards.

170. All matters of dispute between members and non-members are referred to the Tribunal of Arbitration of the Board of Control, and those between members to the Board of Directors. When the arbitrators fail to agree, the matter is referred to an umpire approved by them or, in case of disagreement, appointed by the Board of Control. A fee of Rs. 32 is paid to the Tribunal of Arbitration. In all disputes regarding quality, the arbitrators and the umpire are entitled to a fee of Rs. 40 each. The buyers claim short weight allowance on the basis of the spot rate on the day of delivery and not at the contracted price.

171. In June 1939, the final delivery month of season 1938-39, buyers took delivery of 75,000 bales only. Owing to the fact that the contracts are not registered by the Association, it is not possible to calculate what proportion of the total volume of transactions involved the actual delivery of fibre. The total quantity of jute delivered, however, amounted to 0.8 per cent. of the all-India crop of a little over 9,000,000 bales.¹ As the annual turnover of the speculative transactions in any commodity is always much larger than its production, a very small percentage of transactions in jute futures must obviously have resulted in the delivery of fibre. It is interesting to note, in this connection, that in the United States of America, the total volume of futures trading in wheat during the financial year ending 30th June, 1935, was roughly 13 times more than the average of the wheat crop of that country for the preceding five years. The probable volume of futures trading in wheat in India was calculated to be only about 6½ times more than the average crop. Further, in 1934-35, only 0.25 and 0.5 per cent. of the wheat futures transactions at Karachi and Bombay respectively involved the delivery of grain, while in the United States the percentage of total sales resulting in the delivery of goods was only 0.26 per cent. in July 1934 and 0.52 in May 1935.²

172. (c) *Calcutta Jute Exchange Ltd.*—The objects of the Exchange are to provide 'hedging' facilities on a scale smaller than that of the East India Jute Association, the minimum transaction being confined to 50 bales. The membership is open to those who are engaged in the jute trade and who have a

¹ Calculated Production, *Vide* Ch. I, Table XXIII, *supra*.

² *Vide* Report on the Marketing of Wheat in India (1937), pp. 276-7.

place of business in Calcutta. The members pay a monthly subscription of Rs. 11, there being no admission fee. The smallness of the unit of transactions, the low monthly subscription, and the absence of admission fee, surety and security enable all and sundry to operate in this market.

173. (d) *Katni*.—The members of this market congregate in the vicinity of the Royal Exchange Place and transact business in the street. The transactions are conducted verbally, for a minimum of 5 bales, no delivery being contemplated. Losses are paid, or profits received, from day to day by the parties directly. As at present constituted, it does not seem to serve any useful purpose.¹

E. DESCRIPTION AND INCIDENCE OF MARKET CHARGES AND DEDUCTIONS

1. UPCOUNTRY.

174. A large number of deductions and market charges, both in cash and kind, exist in the jute trade, depending principally on local custom. Wherever the allowances exist, they are ultimately borne by sellers. It may be noted that, except for *dhalta*, market charges are non-existent in villages and are of a nominal character in the primary markets and *hats*. Thus, it is mainly in the secondary and terminal markets that the system of deductions and allowances is prevalent. A brief description of the nature and incidence of these is given below. The scope of the marketing investigations covered 148 secondary markets (baling centres).

(a) *Deductions in kind.*

175. (i) *Dhalta*.—This is an allowance in kind deducted in order to compensate buyers for loss in weight arising during the course of assorting, baling and transportation. Some people erroneously regard it as a moisture allowance, but actually it is not so. The buyer, after estimating the grade outturn of a particular lot of fibre, offers a price but, later, he makes a deduction on account of *dhalta*. Moreover, the allowance is levied at a fixed rate irrespective of the actual moisture content of the jute. It may, therefore, be regarded as an arbitrary deduction based upon local custom established by buyers. The rate of *dhalta* varies from as little as 3/16 of a seer per

¹ The East Bengal Jute Association, known as the *Chota Bazar* or *Gudri* market, was suppressed by the police in 1935. The minimum limit for a transaction was 25 bales. The Association was, therefore, used as a convenient means of gambling: no genuine "hedging" could have been done on such a small basis.

maund in Dhubri (Assam) and $\frac{2}{5}$ of a seer in Ashuganj (Tippera) to as much as 4 seers per md., i.e. 10 per cent. in Panchbibi (Bogra, Bengal). *Dhalta* was found to be charged at about 57 per cent. of the secondary markets where enquiries were made.

176. (ii) *Bachhat* appears to be one of the more objectionable forms of market charges. It is a deduction in kind, usually claimed arbitrarily by buyers as a safeguard against possible loss in the event of fibre proving inferior to the samples on which the bargain was concluded. Although deductions of such nature are not uncommon, the term *bachhat* is applied in a few markets only. Elsewhere, the charge is known as moisture allowance, quality allowance etc. In Serajganj (Pabna) the deduction amounts to $\frac{3}{20}$ of a seer, but in Jiaganj (Murshidabad) it is $2\frac{1}{4}$ seers per maund, or over 5 per cent. by weight.

177. (iii) *Kabari* is another of the more objectionable forms of market charges. It is a deduction in kind and is levied for the benefit of the buyers' staff. In some markets, it is imposed in addition to the cash allowance debited to the seller under the head 'office expenses.' *Kabari* ranges from 5 seers per 100 maunds at Netrakona (Mymensingh) to 35 seers at Nayargaon (Tippera). This deduction was found to exist in over 22 per cent. of the markets.

178. (iv) *Namuna* or sampling allowance, is a deduction in kind levied in a few markets only. Small quantities of samples ranging from $\frac{1}{20}$ of a seer per maund in Baira (Dacca) to 1 seer per maund at Rajshahi are taken out of each cartload of jute and appropriated by the buyer, who thus makes an additional gain. In Bengal, this custom was found to prevail in four markets only, but was almost universal in the secondary markets of the Purnea district.

179. (v) *Pasga*—This deduction in kind is imposed by buyers in order to make good any possible mistake in weighing. Out of 12 markets where this imposition existed, 11 were situated in the district of Purnea. The rate of deduction varies between $\frac{1}{4}$ seer per maund in Katihar (Purnea) to $1\frac{1}{4}$ seer per maund in Chaumohani, district Noakhali (Bengal).

(b) *Cash allowances.*

180. (i) *Zamindars' toll*—The land on which most of the primary markets are situated and where *hats* are held belongs to *samindars*. While charging rent for land occupied by merchants'

premises, they sometimes levy a toll on the commodities sold in the *hat*. The charge varies from half a pie per maund at Serajganj to 6 pies per maund at Netrakona (Mymensingh), Sheoraphuli (Hooghly), Magura (Jessore) and in a number of other markets. *Zamindars'* toll was found to operate in 15 per cent. of the secondary markets.

181. (ii) *Aratdari*—This term ordinarily means 'commission' charged by *aratdars*. In some markets, however, it also includes the cost of storage. In each case, *aratdari* is a cash allowance and varies from $7\frac{1}{2}$ pies per maund in Shamsi (Malda) to 4 annas per maund in Shambazar (Calcutta). This charge prevails in about 15 per cent. of the secondary markets.

182. (iii) *Dalali or brokerage*—This term relates to the brokerage charged by *dalals* in the various secondary markets. Normally, *dalals* are employed by buyers except at Cossipore where they are engaged by the sellers. In the former instance, brokerage is paid by buyers but it is eventually recovered from the sellers in the form of cash deduction in the final accounts. Thus, it is the seller who ultimately bears this charge. Brokerage varies between 2 pies per maund at Sheoraphuli and one and a half annas per maund at Chandura (Tippera). Brokers were found to be operating in about 12 per cent. of the secondary markets.

183. (iv) *Koyali*—This is a cash allowance recovered from sellers and paid to weighmen, who are always engaged by buyers. The charge varies from half a pie per maund as at Sheoraphuli to one anna per maund at Magura. Where the *koyali* charge is relatively high, as in the latter instance, it may be concluded that the wages of weighmen are in effect paid for by the sellers. It is also not improbable that the charge made in such cases proves to be an additional source of gain to buyers. The allowance occurs in about 13 per cent. of the secondary markets.

184. (v) *Office expenses*—This item is a cash allowance charged by *kutchas* balers to meet the expenses of running their business. It varies from 3 pies per maund at Netrakona to 4 annas per maund in Salmari (Purnea) and occurs in more than one-third of the secondary markets.

185. (vi) *Jachandari*—This is a cash allowance levied ostensibly for the buyer's *jachandar* (assorter) who turns

TABLE XXXV

Frequency of Various Allowances in Secondary Markets under Enquiry.
(1937-38)

District	No. of baling centres visited	Deductions in kind					Cash allowances						
		Dhalta	Bachhat	Kabari	Namuna	Pasga	Zamin-dar's toll	Aratdari	Dalali	Koyali	Office expenses	Jachan-dari	Britti
Bengal													
24 Parganas	1	1	...	...	...	...	...	1	...	1	1	1	...
Nadia	6	6	...	...	...	...	...	6	...	6	6	6	...
Murshidabad	5	5	1	...	...	...	...	1	1	5	...	...	5
Jessore	5	5	...	4	...	...	4	...	...	4	...	...	4
Khulna	2	2	...	...	...	...	...	...	...	...	...	...	...
Rajshahi	6	4	...	...	2	...	...	...	...	...	1	...	6
Dinajpur	6	4	...	...	...	...	1	...	...	...	2	...	...
Jalpaiguri	4	1	...	...	...	...	4	...	...	...	2	...	...
Rangpur	19	13	...	...	...	...	1	...	1	...	...	...	11
Bogra	6	5	...	...	...	...	...	...	...	...	...	...	1
Pabna	5	5	2	3	2	...	1	3	5	...	1	...	2
Malda	3	3	...	...	...	...	...	1	...	...	...	...	1
Dacca	10	...	...	9	...	...	...	1	...	3	1	...	8
Mymensingh	18	2	...	6	...	...	5	4	1	...	15	...	6
Faridpur	9	9	...	1	...	...	...	...	1	...	7	...	...
Bakarganj	1	...	...	...	...	...	1	...	...	1	...	...	...
Tippera	8	2	...	5	...	...	...	1	5	1	...	...	5
Noakhali	1	1	...	1	...	1	...	1	...	1	1	...	1
Bihar													
Purnea	16	10	...	...	12	11	5	...	...	...	10	...	15
Assam													
Sylhet	3	...	...	2	...	...	...	2	...	...	1	...	...
Goalpara	4	2	...	...	...	...	...	...	2	...	...	...	2
Kamrup	3	1	...	...	...	...	...	1	...	...	1	...	2
Nowgong	4	...	...	...	...	...	...	1	...	...	2	...	2
Orissa													
Orissa	3	3	...	2	...	...	...	...	...	...	...	...	...
Total	148	84	3	33	16	12	22	22	19	20	56	7	71

Note—All these allowances are borne by sellers.

Source—Marketing Enquiry.

over the jute to determine the quality of the fibre offered by the seller. The charge is current in a few markets of West Bengal only. In the rest of the jute areas, this item is incorporated in the charge styled 'office expenses' which has already been described. *Jachandari* was found to be the lowest at Sheoraphuli, where it was half a pie per maund, and highest in Chaudanga (Nadia) where it amounted to 3 pies per maund.

186. (vii) *Britti* is a cash allowance intended for charity. It is a very common charge and is also known as *Goshala*, *Ishwar-Britti*, etc. The proceeds of this allowance are supposed to be spent by buyers on religious and charitable associations of their own respective communities, and in some cases the money was stated to be handed over to the local self-governing bodies for the maintenance of public institutions. Whether the funds so obtained are actually used in the manner alleged is, however, open to question. Deductions on account of *britti* are made at the rate of $\frac{1}{3}$ of a pie per maund in Ramamritganj (Mymensingh) to $7\frac{1}{2}$ pies at Salmari (Purnea).
(c) *Summary*—

187. Table XXXV aside, shows the extent to which various allowances are prevalent in the secondary markets of Bengal, Bihar, Assam and Orissa. It also reveals that there is no uniformity in the practices obtaining in the various markets, and that some allowances and deductions are more common than the others. Although the total number of charges is large, they do not all exist in any single market. It should be noted that although buyers pay the various functionaries directly employed by them—e.g. commission to agents, fee for storage to *aratdars*, brokerage to *dalals*, etc.—they do not bear any market charges either in the upcountry or terminal markets. The allowances and deductions are imposed upon sellers alone. Table XXXVI overleaf, details the actual allowances and deductions levied in the most important secondary markets of the districts regarded as representative of the different types of jute reaching the terminal markets of Calcutta. The various charges shown therein have been reduced to a common base for convenience of comparison, and are quoted per 100 maunds of fibre. In actual practice, however, certain charges are levied on the value of the goods and in other instances on weight. Further, the charges have been calculated on the assumption that

the seller in the secondary markets is the grower himself and that the jute sold by the upcountry *kutcha* balers, and by the *beparis* from the daisee districts, goes to mills and *pucca* balers without changing hands. If, however, jute is bought and sold more than once before it reaches the final consumer, the total marketing expenses would automatically increase as indeed happens to a large extent. It will be realised from a study of Table XXXVI that the allowances and deductions are all of an arbitrary character, and that the figures given therein constitute the admitted market charges only. But it is probable that they are exceeded in the majority of cases, particularly where deductions in kind are involved, and thus impose an additional and unnecessary burden on the cultivator.

188. The incidence of these charges differs greatly between various markets, even in the same district. For example, in the Mymensingh district, the total value of allowances in the Netrakona market amounted to Rs. 5-5-0 per 100 mds. in 1937-38, which is equal to about one per cent. of the market value of jute at the average 1937-38 price of Rs. 5 per maund upcountry. In the Iswarganj and Mymensingh markets, the total allowances rise to Rs. 18-12-0 and Rs. 18-14-6 respectively, or about 3.8 per cent. of the value of fibre. Again, market charges were found to be clearly highest in Western Bengal. At Sheoraphuli they amounted to Rs. 29-2-0 per 100 maunds, *i.e.* 5.8 per cent. of the value of jute. Similarly, in Magura the charges amounted to Rs. 29-11-0 or, expressed as a percentage of the value of jute, 5.9. The allowances shown against Assam would appear at first sight to be very low. At Dhubri, in Goalpara district, they amounted to Rs. 2-5-6 per 100 maunds and at Haibergaon, in Nowgong district, Re. 0-13-6 only. This is, however, entirely misleading as the exorbitant rate of interest, 12½ per cent. per mensem,¹ which is charged, by the *beparis* to whom the majority of jute growers are indebted, goes to recoup these intermediaries for the various deductions which they appear not to charge.

2. CALCUTTA.

189. The impositions on the sellers in the terminal markets of Calcutta are not as numerous as those upcountry, but their total value is considerable as will be seen from the table below.

¹ Cf. Ch. III, Sec. F1 (c), *infra*.

TABLE XXXVI
*Allowances in Secondary Markets.***
(per 100 maunds)†

District	Market	Deductions in kind			Value at Rs. 5/- per md. §	Cash allowances							Total value of deductions and allowances	Percentage of sale proceeds deducted as allowance	
		Dhalta	Kabari	Pasga		Office expenses	Zamindar's toll	Charity	Koyali	Dalali	Aratdari	Total			
Bengal					<i>R. a. p.</i>	<i>R. a. p.</i>	<i>R. a. p.</i>	<i>R. a. p.</i>	<i>R. a. p.</i>	<i>R. a. p.</i>	<i>R. a. p.</i>	<i>R. a. p.</i>	<i>R. a. p.</i>	<i>R. a. p.</i>	
Mymensingh	Netrakona	...	5 srs.	...	0 10 0	1 9 0	3 2 0	...	...	...	...	...	4 11 0	5 5 0	1.1
	Iswarganj	50 srs.	...	...	6 4 0	10 8 4	1 15 8	...	...	...	...	...	12 8 0	18 12 0	3.8
	Mymensingh	100 „	...	...	12 8 0	4 11 0	1 9 0	0 2 6	...	...	...	...	6 6 6	18 14 6	3.8
Dacca	Narsingdi	...	25 „	...	3 2 0	1 8 0	...	...	2 0 0	4 11 0	...	...	8 3 0	11 5 0	2.3
	Tarpassa	...	25 „	...	3 2 0	12 8 0	...	1 9 0	...	...	...	...	14 1 0	17 3 0	3.4
Faridpur	Charmugaria	200 „	...	...	25 0 0	...	..	...	...	...	...	...	<i>nil</i>	25 0 0	5.0
Dinajpur	Raiganj	...	...	...	<i>nil</i>	7 13 0	1 10 8	...	...	...	...	...	9 7 8	9 7 8	1.9
Bogra	Jamalganj	150 „	...	...	18 12 0	...	...	1 9 0	...	...	...	...	1 9 0	20 5 0	4.1
Rangpur	Gainbandha	56½ „	...	...	7 0 6	...	...	...	...	...	...	...	<i>nil</i>	7 0 6	1.4
	Saidpur	75 „	...	...	9 6 0	...	...	1 0 8	...	1 9 0	...	...	2 8 9	11 15 8	2.4
Hooghly	Sheoraphuli ‡	50 „	...	...	6 4 0	6 8 0	3 2 0	0 4 0	0 4 0	0 4 0	12 8 0	...	22 14 0	29 2 0	5.8
Jessore	Magura	150 „	...	...	18 12 0	...	3 2 0	1 9 0	6 4 0	...	...	...	10 15 0	29 11 0	5.9
Bihar															
Purnea	Gulab-bagh	50 „	...	50 srs.	12 8 0	0 12 6	0 12 6	0 6 3	...	...	...	...	1 15 3	14 7 3	2.9
Assam															
Goalpara	Dhubri	18½ „	...	...	2 5 6	...	..	...	...	...	...	...	<i>nil</i>	2 5 6	0.5
Nowgong	Haibergaon	...	...	...	<i>nil</i>	0 10 0	...	0 3 6	...	...	...	...	0 13 6	0 13 6	0.2

** All these allowances are borne by-sellers.

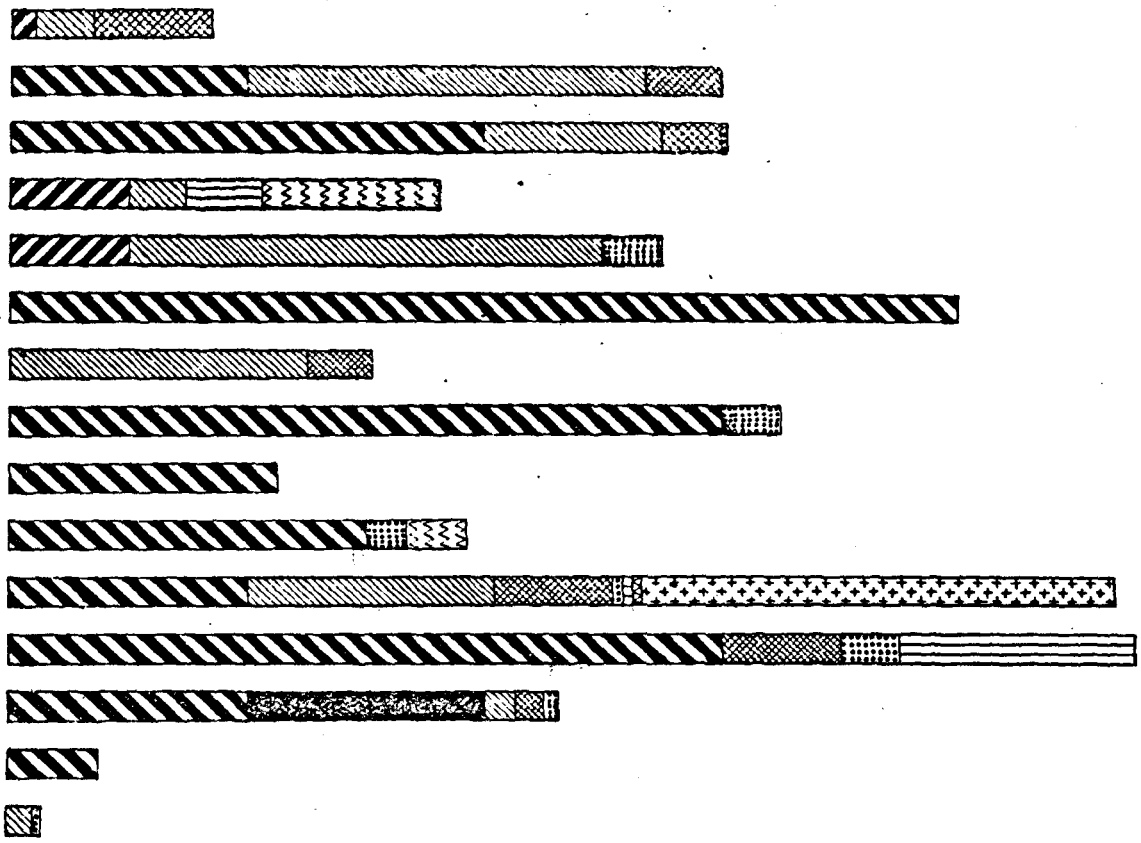
† Allowances are actually charged either per maund, per bale (of different weights) or per Rs. 100/- but, for the purpose of uniformity, calculations in the above table have been made on the basis of 100 maunds.

§ Being the approximate average price of average quality jute in upcountry markets in 1937-38.

‡ Non-baling centre.

ALLOWANCES IN SECONDARY MARKETS

NETRAKONA
 ISWARGANJ
 MYMENSINGH
 NARSINGDI
 TARPASSA
 CHARMUGARIA
 RAIGANJ
 JAMALGANJ
 GAIBANDHA
 SAIDPUR
 SHEORAPHULI
 MAGURA
 GULABBAGH
 DHUBRI
 HAIBERGAON



DEDUCTIONS IN KIND
 DHALTA
 KABARI
 PASGA

CASH ALLOWANCES
 OFFICE EXPENSES
 ZAMINDARI TOLL
 CHARITY
 KOYALI
 DALALI
 ARATDARI

TABLE XXXVII

*Allowances Paid by Upcountry Kutcha Balers and Beparis, Selling in Calcutta Markets.
through Aratdars (per 100 mds.)***

Market	Cash allowances					Deductions in kind			Total value of allowances & deductions	Percentage of sale proceeds deducted as allowances
	Aratdari†	Cartage	Handling	Godown rent per day	Total	Dhalta	Kabari	Value at Rs. 6/- per md. §		
	R. a. p.	R. a. p.	R. a. p.	R. a. p.	R. a. p.	Srs.	Srs.	R. a. p.	R. a. p.	
Hatkola ...	12 8 0	4 11 0	...	0 5 0	17 8 0	...	11½	1 11 6	19 3 6	3.3
Cossipore ...	10 15 0	6 4 0	3 2 0	...	20 5 0	25	...	3 12 0	24 1 0	4.0
Shambazar ...	25 0 0	...	...	...	25 0 0	25	25	7 8 0	32 8 0	5.4

** Allowances are actually charged either per maund, per bale (of different weights) or per Rs. 100. But, for the purpose of uniformity, calculations in the above table have been made on the basis of 100 maunds.

† Brokerage paid by aratdars to dalals is included in aratdari.

§ Being the approximate average price of loose Jute in Calcutta in 1937-38.

The total value of cash allowances and deductions in kind amount to Rs. 19-3-6 per 100 maunds in Hatkhola, Rs. 24-1-0 in Cossipore and Rs. 32-8-0 in Shambazar. The fact that the first named market is the cheapest of the three is due to absence of handling expenses on the jute sold there, whereas in the Cossipore market Rs. 3-2-0 per 100 maunds are realised from the sellers in addition to cartage at Rs. 6-4-0. A seller in Cossipore has to pay for handling and transport in spite of the fact that jute is sold in the railway goods shed. It is also noteworthy that the allowances in kind charged at Hatkhola are lower than those at Cossipore. Almost all the persons selling jute in the Shambazar market through the local *araddars* are *beparis* from the *daisce* districts. As a rule, these traders borrow from the *araddars*, free of interest. The creditor *araddars*, therefore, charge a high rate of commission to compensate themselves for the loss of interest. So that, while *araddari* is $1\frac{3}{4}$ and 2 annas per maund in the Cossipore and Hatkhola markets respectively, it amounts to 4 annas per maund at Shambazar. This explains to some extent why the total of allowances is so high in this market.

190. It is clear from this review that the sellers' expenses at Cossipore are unnecessarily increased owing to the levying of handling charges and cartage even when these services are not performed. Similarly, at Shambazar, the rate of *araddari* is definitely excessive and, in both of these markets, *dhalta* has to be paid at the rate of a quarter seer per maund. As the sellers in the Calcutta loose jute markets ultimately pass on the incidence of market allowances and deductions to the persons from whom they buy jute in the *mofussil*, the fact remains that the Calcutta markets are no better from the growers' point of view. It is also important to note that the growers of jute in the *daisce* districts, whose fibre is sold in the Shambazar market, have to bear only one set of market charges owing to the fact that there are no secondary markets in those areas and since no allowances or deductions other than *dhalta* and *zamindars'* toll are in vogue in the primary markets and *hats*. The growers in other jute areas, however, from which Cossipore and Hatkhola draw their supplies, have ultimately to bear the burden of two sets of market charges, once in the upcountry secondary markets and again in the terminal markets at Calcutta.

F. FINANCE OF ASSEMBLING.

1. CREDIT FACILITIES FOR GROWERS.

191. (a) *Bengal*—Before the Bengal Agricultural Debtors

Act was enforced in 1936, it was the normal practice for growers to borrow money from professional money-lenders and, in the case of North and West Bengal and Purnea (Bihar) particularly, from *farias* and *beparis* as well as from *araddars* for the purpose of cultural operations in March and April or for weeding in April and May. In all cases, the repayment of the principal and interest was promised immediately after the sale of the jute crop. Transactions with intermediaries for small sums of five or ten rupees were verbal, but a note of hand had to be given in the case of bigger amounts. The loans of this type involved more or less the hypothecation of growers' crop, the creditor having a lien on it to the extent of the money advanced.¹ Usually, the *beparis* did not charge any interest on the money so advanced. The debtor was required to deliver jute to the value of money borrowed either at a price fixed in advance which was generally eight annas to one rupee per md. less than the rate prevailing at the time of borrowing, or at the price ruling at the time of delivery less four to eight annas per md. As repayment ordinarily took place between August and October, the term of loans worked out at 4 to 6 months. Assuming the price of jute to have been Rs. 5 per maund, a discount of eight annas meant an interest at the rate of from 20 to 30 per cent. per annum. It was also customary for creditors to press the debtors to make early sales irrespective of the current market prices. Owing to the fact that these sales were made to the creditors themselves, an additional loss resulted to the growers. In some cases, it was stipulated that the principal was to be repaid in cash but the interest was charged in kind, *e.g.* at 1 to 2 seers of jute per rupee per month, which worked out at the extortionate figure of at least 12½ per cent. per mensem.

192. The Bengal Agricultural Debtors Act, as its name implies, is mainly intended to relieve growers from the pressing demands of their creditors. The Act provides for the establishment of Debt Settlement Boards at suitable places in the rural areas. The chief function of these boards is to fix the amounts which the borrowers should pay in settlement of their debts. The payments may be made in instalments spread over a number of years. The Boards, before arriving at a decision, call for evidence from both sides and take into consideration the total payments made on account of interest. The amount of each instalment

¹ This practice is prevalent mostly in North and West Bengal and Purnea.

is fixed according to the annual income and the liabilities of the debtor. During the short time that the Boards have been functioning, they have decided thousands of cases in each district involving large sums. By voluntary settlement between creditors and debtors, claims have been adjusted at about 50 per cent. of their value. In the case of compulsory settlement through courts, however, the creditors have been awarded 58 per cent. of the amount claimed.¹ There are still large number of cases pending, so it would be rather premature to judge at this stage the results of this legislation. It has been generally reported by cultivators that as soon as the Bengal Agricultural Debtors Act came into operation, increasing difficulties were experienced in securing loans owing to the hesitancy of the intermediaries and money-lenders to lend as freely as had been their custom in the past. Moreover, the dealers themselves are now finding it difficult to obtain credit facilities from *araidars* and *kutchā* balers.

193. The professional money-lenders and wealthy growers advance money against land, gold and silver ornaments and note of hand. The mortgage of land is resorted to when large amounts, *e.g.* Rs. 100 or more, are required. The advance against ornaments is restricted to 40 to 50 per cent. of the value of the article, and the interest varies from $1\frac{0}{10}$ to $3\frac{1}{2}$ per cent. per mensem. The loans on notes of hand usually carry interest ranging between $6\frac{1}{4}$ and $12\frac{1}{2}$ per cent. per mensem, depending upon the position and reputation of the borrower. Sometimes, loans for small amounts of five or ten rupees are given on personal surety: such transactions are often verbal, the creditor merely making a note in his books. The interest for such loans is the same as on notes of hand. There is little evidence of agriculturists borrowing from commercial banks.² These institutions normally advance money against ornaments and property, assets seldom possessed by the average cultivator. In one instance, the growers of a village near Bhairab Bazar (Mymensingh) were found borrowing from a local bank at one per cent. per mensem.

194. (b) *Bihar*—No legislative measure similar to the Bengal Agricultural Debtors Act has been enacted in Bihar. It was reported that the growers borrowed from traders, professional money-lenders and wealthy cultivators. The system

¹ Cf. "The Man Behind the Plough", by the Hon'ble Azizul Haque (1939), p. 199.

² For Co-operative Organisations, see Sec. F 4, *infra*.

employed by the creditors in Bihar is much the same as that obtaining in Bengal before the B.A.D. Act was enforced, with the important difference that when prices are fixed in advance a creditor secures repayment by taking over jute at a price Re. 1-0-0 to Rs. 1-8-0 per maund lower than the rate prevailing at the time of delivery. The money-lenders give loans against ornaments to the extent of about 40 per cent. of their value, and charge interest at rates ranging between $1\frac{1}{16}$ and $3\frac{1}{8}$ per cent. per mensem. Loans of big amounts are generally granted against property only. The rate of interest for advance against notes of hand usually depends upon the financial position of the borrower.

195. (c) *Assam*—Cultivators in this province borrow from professional money-lenders and intermediaries. The money-lenders advance money against notes of hand at rates of interest varying from 1 to 6 per cent. per mensem. When *beparis* happen to be the creditors, interest is charged in kind at the rate of one *seer* of jute per rupee per month. Assuming the price of jute to be Rs. 5 per maund, this works out to two annas per rupee, or $12\frac{1}{2}$ per cent. per mensem. It is for this reason that the allowances levied on sellers in the secondary markets of Assam appear to be relatively low, the creditors profiting to a greater extent by charging such exorbitant rates of interest.

196. (d) *Orissa*—The growers of jute in Orissa borrow from professional money-lenders in the months of July and August at an interest of 2 per cent. per mensem. The repayment of loans is made in the months of January and February, after the season for marketing jute is practically over. Cultivators were not reported to borrow from intermediaries.

2. FINANCING OF BEPARIS AND MERCHANTS.

197. Mention has already been made of the general system of advances by *beparis* to growers. The former are, in most cases, financed by *araidars* and *kutchas* balers. Thus, when the B. A. D. Act was passed, the peripatetic dealers in Bengal were the first to be refused credit facilities by their buyers. This had its repercussions in the villages. At present, *araidars* and *kutchas* balers advance money to those *beparis* only who have long established connections with them. The peripatetic dealers get an advance of a few hundred rupees from their principals to enable them to make purchases in the villages and *hats*. Within a few days, they bring back fibre worth approximately the amount borrowed. Then they take further loans and effect more purchases

in the interior, and so on. The accounts are usually settled at the close of the season. No interest is charged on these loans, nor is any reduction in price ordinarily insisted upon. The main object of *araidars* and balers in granting loans on such easy terms is to attract sellers. Under this system, many *beparis* deliver jute at their purchase price and receive commission at nine pies to one anna per md. the buyers being responsible for transport charges. In such cases, the intermediaries practically act as the employees of *araidars*, their remuneration depending on the quantity of jute supplied by them. Recently, a tendency has been noticed among the *kutchas* balers of East and North Bengal to send their servants to *hats* and villages to purchase jute for them.

198. Normally, *kutchas* balers operate with their own capital. If the money market is favourable, that is when money is cheap, they borrow from their banks or other financial agencies. The interest on such loans is usually $\frac{3}{4}$ to 1 per cent. per mensem. Sometimes, the upcountry balers, who send jute for sale in the Cossipore and Hatkhola markets, draw upon their agents in Calcutta, against railway receipt, to the extent of 80 per cent. of the value of fibre despatched by them.

3. FUNCTIONS OF JOINT STOCK BANKS.

199. With the exception of the Imperial Bank and the Central Bank of India, the banks in the *mofussil* are all Bengalee concerns. These are established at the district headquarters, important sub-divisional towns, and secondary markets like Akhaura (Tippera), Bhairab Bazar (Mymensingh), etc. The operations of the *mofussil* banks are generally confined to the usual banking transactions—current and fixed deposit accounts; loans against Government securities, share certificates and debentures; hypothecation of marketable commodities; etc. Loans against valuables (such as gold and precious stones) and land mortgages are exceptional. These banks do not allow credit facilities to growers and intermediaries. It was reported that this attitude of the banks was partly the result of the Reserve Bank of India Act of 1934 which enjoins them to make advances mostly against commercial securities, which the growers evidently cannot furnish. The general backwardness in the rural areas, the widespread illiteracy and the smallness of the *ryots'* monetary requirements may be regarded as other factors responsible for the banks not financing the cultivators. However, a few *mofussil* banks have expressed their willingness to consider the possibili-

ties of advancing money to growers against jute stored in approved godowns.

200. The transactions of the banks with the merchants are usually confined to the negotiation of *hundis* and bills of exchange. Some banks (*c.g.* in Dacca and Mymensingh districts) advance money against jute stored in merchants' godowns on which they place their own locks. When the hypothecated jute is required for local delivery or for despatch to Calcutta, the debtors have to pay cash before it can be released. Alternately, the banks may arrange the local delivery or despatch the fibre to Calcutta, and realise the sale proceeds which are placed to the credit of the debtor. The advances made by the banks are ordinarily restricted to 60 or 70 per cent. of the market value of the fibre, and in case of a fall in prices, the debtors are required to make up the deficiency.

4. CO-OPERATIVE ORGANISATIONS.

201. (a) *Credit societies*—The Co-operative movement in India has been confined almost exclusively to the provision of cheap agricultural credit. Provincial Co-operative Banks control the finances and administration of the various Central Banks established within their jurisdictions. Each Central Bank has affiliated to it a large number of village co-operative credit societies which extend credit facilities to their members only. The loans advanced by the societies fall under two categories, (i) long term loans—given both for productive and unproductive purposes, the repayment being made by instalments spread over a number of years—and (ii) short term loans—advanced mainly for productive purposes and payable after the harvesting of those crops for the cultivation of which they are borrowed. A severe check was received by the co-operative movement during the period of depression, 1929-34. Following the phenomenal fall in the prices of agricultural commodities, the societies experienced great difficulty in realising their dues, large proportion of which are still outstanding. Further, owing to the great extent of bad and doubtful debts and the withdrawal of deposits by investors, many co-operative societies sustained severe losses. This, of necessity, resulted in the curtailment of the activities of the primary societies. The provision of short term loans on co-operative basis was, however, revived in Bengal in 1939, and loans amounting to Rs. 19,99,978 were advanced to 188,910 cultivators against their jute and paddy crops. But, it is not

possible to say how many loans and of what amounts were granted for the cultivation of jute only. The cultivators in Bengal pay at present interest at $9\frac{3}{4}$ per cent. per annum to the village societies, which in turn pay 8 per cent. to the Central Banks. The latter borrow from the Bengal Provincial Bank at 5 per cent. per annum.

202. (b) *Sale societies*—Some time back, the Government of Bengal approved of a scheme for fostering trading in jute on co-operative lines. Accordingly, several societies—called Central Co-operative Sale and Supply Societies—were organised with the object of collecting or buying the jute produced by members or others and selling it in the best market. One society was registered in 1925, 10 in 1926 and 5 more in 1929. The Bengal Wholesale Co-operative Society was started at Calcutta in 1926 to serve as a clearing centre for others. All societies, however, were closed down by September, 1930, involving a loss of over Rs. 20 lakhs. It has not been possible to find out definitely the causes which led to the extinction of these associations, but it has been reported that they were not run on sound business lines and that there was mismanagement. The result is, that now there are no jute sales societies in Bengal, and at no time have they been started in other jute growing provinces.

CHAPTER IV

HANDLING & TRANSPORTATION

A. DESCRIPTION AND COSTS OF HANDLING OPERATIONS

1. VILLAGES.

203. The handling operations involved in the sale of jute at villages consist of (1) carrying of fibre from the house to the courtyard, (2) weighing and (3) loading in the buyers' carts or boats. As described previously,¹ growers do not usually have much fibre available for sale at any one time. Moreover, in most cases, all handling is done by the seller alone, or in conjunction with the buyer. Again, weighing is generally done by the buyers, the growers helping in the operation, and loading is undertaken by both jointly. Further, when fibre has to be carried from the growers' premises to the buyers' boat or cart, it is commonly done by the seller and his family. It will thus be seen that in ordinary circumstances it is seldom that expenses are incurred either by a buyer or seller on account of the handling of jute in villages. It was reported in a few cases, however, that labourers were engaged to perform these three operations and that the costs amounted to about 3 pies per maund.

2. HATS AND PRIMARY MARKETS.

204. (a) *Carts*—When fibre is taken to a *hat* in carts, these are generally parked in the open space provided for the purpose in or near the market place. The carts remain loaded and the potential buyers examine the fibre by taking down and opening a few bundles. When a sale has been completed, the cart is discharged at the buyers' shop or godown, the seller handling his product. Weighing is then done by the buyer or his agent, sometimes with the help of the seller. Later on, when jute is transported to secondary markets or to the terminal markets at Calcutta (as in the case of *daisee* jute), the loading into carts is done by the buyers' cartmen. A similar procedure is followed as regards jute brought to the *hats* on pack horses or in headloads.

205. (b) *Boats*—When jute is brought in *dinghees* or small craft to a *hat*, the usual practice is to anchor close to the river bank or to moor alongside the big covered boats employed by the

¹ Cf. Ch. III, Sec. C3.

buyers for transporting their jute from *hats* to baling centres. Fibre is generally made up into small bundles of 5 srs. each, tied at the top end (locally called *dharas*¹ in eastern and other parts of Bengal), and buyers estimate the value by inspecting the bulk heaped in the sellers' boats. When a price has been agreed upon, the bundles are transferred by the sellers to the buyers' boats for weighment and storage. Handling costs in *hats* and primary markets are therefore nominal, and when performed by labourers, average a little over 3 pies per maund.

3. SECONDARY MARKETS (BAILING CENTRES).

206. Various types of handling operations are undertaken in secondary markets in connection with the assembling, grading and baling of jute and its export to terminal markets, mills and presses. The costs and methods of performing these operations are described below.²

(a) *Unloading and Carrying to Godowns*—When jute arrives in carts, no unloading expenses are incurred as the cartmen themselves handle it. The same may be said of arrivals by pack horses and headloads. When jute is brought in boats, sales usually take place at the river banks. Unloading and carrying to buyers' godown is arranged and paid for by the buyer or seller according to the terms of sale. The expenses incurred on this account depend on the distance fibre is to be carried, and vary from one pie per maund at Ashuganj (Tippera)—where the distance from the river bank to the buyers' premises is about 50 yards only—to 6 pies per maund at Dhubri and Goalpara markets where fibre has to be carried 300 to 400 yards.

207. (b) *Weighing*—*Kutchas* balers and *aratdars* usually engage weighmen on a monthly, seasonal or annual salary basis, which varies from Rs. 12 per month in Sonatola (Bogra), Nilphamari (Rangpur), etc., to Rs. 26 per month in Bogra, Rangpur, Gaibandha and some other markets. The number of weighmen engaged by a baler depends on his annual turnover. From the data collected during the enquiry, it is calculated that, having regard to the wages paid to these functionaries and to the annual turnover of a baler, the cost of weighment works out at Rs. 8 per 1,000 mds. or about 1½ pies per md. Weighing expenses are paid, at least in the first instance, by the buyers, but it was reported in 21 out of the 148 markets visited that

¹ Actually *dhara* means a weight of 5 srs.

² See Appendix F for detailed expenses according to markets.



Assorting and Morahing for Bojhas

ultimately this expense was recovered, in part or whole, from the sellers in the form of a cash allowance (*koyali*).¹

208. (c) *Selecting (grading) and baling*—After jute has been weighed, it is carried to selecting sheds by coolies who are employed by the balers on contract basis and who usually perform other functions also, for example, unloading, selecting, etc. Selecting or *jachai*, as it is commonly called, is the process of assorting fibre into the various grades packed by a baler. This work requires a good knowledge of the different qualities which go to make up the various marks or grades. The reputation and much of the business of a baler depends on his ability to maintain a regular assortment of the specified commercial grades, therefore the handling operations in this connection are of extreme importance to him and are, as a rule, closely supervised.

209. For the purpose of grading, the bundles are first opened out and arranged in piles on one side of the selecting shed. The selector takes a *dhara* and spreads it out before him with a flick of his hands. He then holds the top in one hand and with the other picks out the stricks of fibre suitable for each grade and piles them separately. Selecting is usually done in indirect sunlight as it shows up the true colour and gloss of the fibre. When the selector—i.e. *jachandar*—has built up piles of each grade, he takes small lots in his hands and twists them together into what is termed *morahs*. These are not individually weighed on the scale, but the judgment of the selectors is so good that the weight of the *morahs* is more or less always correct. Though uniform in each press, their weight varies from 4 to 7 seers as between different establishments and markets. Before being placed in the press, the actual weight of the total number of *morahs* required for making a bale is invariably taken.

210. Bailing is the term applied to the process of reducing loose jute by means of pressure into a compact form to facilitate handling and transportation. It is done in hand and steam presses or hydraulic presses driven by steam or oil power. The first two methods are employed for making *kutchha* bales of various weights ($1\frac{1}{2}$, 3, $3\frac{1}{2}$, 4 and 5 mds.) in which form the bulk of loose jute from upcountry—except *daisee* districts—reaches the mills, press-houses and the Calcutta terminal markets. The table below shows the customary packing at a number of baling centres. It indicates that although the weight of *kutchha* bales ranges from

Cf. Ch. III, Sec. E 1 (b) (iv), supra.

1½ to 4 mds., the 3½ mds. bale is the most common type. Bales of different sizes may, however, be packed in the same market.

TABLE XXXVIII.

Weights of Kutcha Bales Packed at Secondary Markets.

District	Market.	Weight of bale
Nadia	Alamdanga	1½ and 3½ maunds
Murshidabad	Beldanga	1½ and 3½ "
Jessore	Magura	3½ and 3½ "
Khulna	Daulatpur	3½ and 4 "
Rajshahi.	Atraighat	3½ "
Dinajpur	Setabganj	3½ "
Jalpaiguri	Domohani	3½ "
Rangpur	{ Gaibandha	3½ "
	{ Darwani	4 "
Pabna	Serajganj	3½ "
Malda	Shamsi	3½ "
Dacca	{ Narsingdi	1½ and 3½ "
	{ Serajdikhan	3½ and 4 "
	{ Narayanganj	1½ and 3½ "
	{ Iswarganj	3½ and 4 "
Mymensingh	{ Muktagachha	4 "
	{ Sarisabari	3½ "
	{ Madaripur	3½ and 4 "
Faridpur	{ Sibchar	3½ "
	{ Charmugaria	4 "
Tippera	{ Akhaura	3½ and 4 "
	{ Chandpur	3½ and 4 "
Noakhali	Chaumohani	3½ and 4 "
Purnea (Bihar)	Gulab Bagh	3½ and 4 "
Cuttack (Orissa)	{ Danpur	3½ "
	{ Jajpur	3½ "
Goalpara (Assam)	Dhubri	1½ "
Nowgong "	Haibergaon	4 "
		3½ "

Source.—Marketing Enquiry.

Pucca bales weighing 5 maunds, or 400 lb. net, and packed to a density of 10½ cubic feet are made on hydraulic presses. All jute meant for export out of India is packed in this form and, all baled cuttings, used in the Calcutta mills and exported abroad, are also pressed in the same manner.

211. A *kutch*a bale press is an oblong box-like structure with stout wooden sides which are hinged to enable the filling in of loose jute and the subsequent releasing of the bale. The top and bottom are of thick steel plates, which have a series of slots running across their breadth. The top plate is supported on four heavy iron beams and is a permanent fixture, whereas the bottom plate moves up or down in grooves of these beams and it is to this that the necessary pressure is applied. The method of pressing is as follows. The bottom plate is lowered to its base



Baling Kutcha bales)

and *morahs* are arranged, in alternate layers three each way, on top of it, keeping the root and crop ends in the centre. After the required quantity has been piled, the sides are closed and the bottom plate, manipulated by a chain and pulley, is moved up until the bulk of the fibre is pressed to a little less than the required size. When still tightly compressed, the sides are opened and the press-men pass the ends of a jute rope through grooves let into the top and bottom plates, lacing it tightly along the full length of the bale. When tying is finished, pressure is relaxed by slowly lowering the bottom plate. The bale expands up to the limit of the elasticity of the rope. It is then removed from the press for storage or despatch to consuming centres. The time taken in the baling process depends on the skill of the labourers employed. Four men at least are required to work the press and two men to load each box. Working 10 hours a day, they should pack about 250 bales.

212. Steam driven chain or wire rope presses are somewhat similar in construction. The bottom plate is moved by heavy iron rods and the jute can be packed to a higher density than by hand. The number of bales packed by steam presses averages 300 to 310 in 10 hours. It should be mentioned here that the use of steam presses is confined to the large baling houses in important markets like Narayanganj, Chandpur, Sarisabari, Serajunge, etc.

213. In many cases, balers enter into contracts for the supply of trained selectors, baling hands and carrying coolies. Under this system, they pay at a flat rate, i.e. so much per bale or per 100 bales, which covers all processes—*viz.* assorting, carrying to presses, baling, stacking and, occasionally, exporting. It is not uncommon, however, for balers to pay for selecting and baling on the piece wage system, and to engage coolies on daily wages for other operations. It was also reported that, in some baling centres, all handling operations were paid for on a daily wage basis. The lowest flat rate Re. 0-2-9 per bale of $3\frac{1}{2}$ mds. for these processes was recorded in Bekdanga (Murshidabad) and Japsa (Faridpur) markets. In the areas of East and North Bengal, Bihar and Assam the flat rate charge ranged between Re. 0-3-3 to Re. 0-4-0 per bale. In this connection, it was noted that European balers generally paid a higher rate than Indians, i.e. from Re. 0-3-9 to Re. 0-4-6 per bale. Further, the highest flat rate, Re. 0-5-3 per bale, was recorded in Orissa. The charges for

the various jute growing areas may be summed up as follows—

East Bengal	...	from 9	to 15	pies per md.
North Bengal	...	9½	to 16	„ „ „
West Bengal	...	9	to 18	„ „ „
Bihar	...	10½	to 11½	„ „ „
Assam	...	10½	to 12	„ „ „
Orissa		about 18		„ „ „

214. (d) *Stacking or Piling for Storage*—Stacking, or *khamali*, is the process of piling up the bales, one on top of the other, for the purpose of storage. As bales are ordinarily despatched soon after packing, expenditure on this account is incurred only in the case of jute which is stored. Piling is generally done by labourers engaged for baling, and its cost depends upon the system prevalent in individual markets. For example, in Kishoreganj and Ramamritaganj (Mymensingh), Nilphamari and Saidpur (Rangpur) and Japsa (Faridpur), to name a few, stacking is done without any extra payment, its cost being included in the baling expenses. Again, in other markets, e.g. Gaibandha (Rangpur), Jalpaiguri, etc., it is done free by the baling coolies up to the 3rd or 4th pile, after which they charge at the rate of 3 pies per bale of 3½ or 4 mas. On the other hand, in many other markets e.g. Mymensingh, Rangpur, Haibergaon (Nowgong), Gulab Bagh (Purnea), etc., stacking charges are paid on all bales stored and vary from Rs. 1-8-0 to Rs. 2-0-0 per 100 bales of 3½ mds., i.e. about one pie per md.

215. (e) *Exporting*—The word 'exporting', when applied to *butcha* bales, means the carrying of bales from the godowns to the wagons in railway sidings or at the railway station, or to the flats and barges. When a railway station is situated at some distance, bales are generally transported by cart. For loading purposes, three men are ordinarily required to lift and carry a bale of 3½ mds. The rates vary according to the distance the bales are to be carried, and range from one pie per md. at Lalmonirhat (Rangpur)—for loading into wagons in railway siding—to 9 pies per md. at Akhaura (Tippera)—where the bales have to be carried a few hundred yards. In the case of markets situated on river banks, the costs of exporting fluctuate even during a season. Higher expenses are incurred as the distance from the river increases. For example, at Madaripur (Faridpur) while the rate during August-September is Rs. 3 per 100 bales of 3½ mds.

1 See Appendix F, *infra*.

—i.e. about $1\frac{1}{2}$ pies per md.—it is Rs. 12 per 100 bales—i.e. 6 pies per md.—in the months of December and January. Loading into wagons in railway sidings is done by the balers' coolies, while in steamers and cargo flats this work is shared by the crews.

216. When bales are carried to the railway stations in carts, unloading is done by the cartmen and, as will be explained later, loading into wagons is carried out by railway employees. The exporting charge, therefore, depends on the availability of carts, type of road and the distance from the balers' premises to the railway stations. The lowest charge noted was 2 pies per md. at Shibganj (Dinajpur), and the highest 6 pies per md. at Domohani (Jalpaiguri) and some other stations. The exporting expenses incurred in some of the important markets are shown in Appendix F. It should, however, be pointed out that one baler may incur higher expenses on this account than others in the same market. While the rates quoted in the appendix are the average expenses incurred by the majority of balers established at various markets, there may be some whose costs are actually lower or higher.

217. Railways take upon themselves the responsibility of loading goods into the wagons at the stations of despatch, and the charges for this service as well as for unloading at destination are included in the freight. As has already been pointed out, the loading of wagons in merchants' railway sidings has to be performed by coolies engaged and paid by them. But, it was reported by some balers, during the Enquiry, that their own coolies had to load the wagons even at the railway stations. While it is not possible to judge the correctness or otherwise of this statement, the fact remains that many station masters are given contracts for the supply of labour at their own stations. For this service, the railway pays the contractors or station master at rates which vary from one railway district to another. For instance, the rate at stations below the Hardinge Bridge¹ is Rs. 2-11-9 per 1000 mds. while it is Rs. 3-13-9 per 1000 mds. for stations above that point. The labour charges in Dacca and Assam sections are higher, being Rs. 4 and Rs. 5 per 1000 mds. respectively.

218. The range of total handling expenses—incurred on account of unloading, weighing, selecting, baling and exporting

¹ Situated at mile 120 on the E. B. R. main line.

by *kutch*a balers in the secondary markets of the various provinces—is shown in the following statement.¹

Province	Range of handling expenses.			
Bengal				
East	Re. 0 1 1	to	0 2 3	per md.
North	„ 0 1 2½	„	0 2 2	„ „
West	„ 0 1 3	„	0 2 3	„ „
Bihar (Purnea)	„ 0 1 2	„	0 1 5½	„ „
Assam	„ 0 1 2	„	0 1 9	„ „
Orissa	„ 0 1 9		—	„ „

219. (f) *Standing charges*—These expenses, incurred by *kutch*a balers on account of the maintenance of their premises in the upcountry baling centres, form an important item of the handling charges. European balers employ, throughout the year, adequate staff to carry out administrative duties. This item and the repairs and replacement of buildings, launches and boats, together with depreciation and insurance are reported to cost these merchants approximately four annas per maund. Indian balers do not generally keep their premises up to the standard of preservation maintained by Europeans. Their expenses in this connection are, therefore, lower. Further, in many cases, their staffs are employed on a seasonal contract basis. As a result, the standing charges of Indian balers are reported to be about two annas per maund..

4. CHARGES IN *Daisee* DISTRICTS.

220. There are no baling stations in the *daisee* districts and the primary markets function as the final assembling centres. The fibre is sent from there to the terminal markets at Calcutta in the form of 'drums', i.e. loose jute rolled to the shape of a drum and weighing approximately one maund. The expenses incurred in these primary markets on account of unloading and carrying to godowns average about 3 pies per maund. Weighing is done by buyers' employees engaged for the purpose. It was reported in Sheoraphuli (Hooghly) and Habra (24 Parganas) that drum makers were paid at the rate of one anna per drum. Considering that no selecting is done before jute is bundled, the expenses of

¹ For details, see Appendix F.

drum making may appear to be rather high. But, in actual practice, they also include drying or watering expenses. As will be explained in detail later,¹ *beparis* usually water jute if it reaches them in a dry condition and when prices are rising. Conversely, when the fibre contains excessive moisture and the prices are low, merchants reduce the water contents by exposing the jute to the sun for varying lengths of time. Loading charges were found to be fairly uniform for jute despatched to the terminal markets by carts, lorries or boats, i.e. 3 pies per maund. Cartage to railway stations in the *daisee* areas was calculated at about 6 pies per maund. Thus the total handling expenses amount to Re. 0-1-6 per md. for despatches by carts and boats, and to Re. 0-1-9 per md. when the fibre is despatched by railways, being about the same as in the secondary markets.

5. TERMINAL MARKETS.

221. Jute is sent from upcountry markets either direct to mills and presses or to the Calcutta loose jute markets established at Cossipore, Hatkhola and Shambazar.

(a) *Cossipore*—Arrivals at Cossipore are all by railway, and the goods are unloaded by coolies engaged by the railway authorities. The bales are eventually removed by buyers to their respective godowns. The work of loading in carts at Cossipore Road Station, and unloading, weighing and storing at their premises, is done by labourers engaged by buyers on contract basis. The charges for removing bales from the railway shed and loading them in carts at the station, amount to Re. 0-14-3 per 100 mds, or 1.7 pies per md. Rates for cartage to balers' premises are fixed according to the distance bales are carried, and vary from 5 to 9 pies per md. Unloading, weighing and storing operations cost, in all, about 2½ pies per md. The total handling expenses of Calcutta balers, therefore, amount to 9.2 to 13.2 pies per md. They, however, realise from the sellers cartage charges at the rate of one anna per md.

222. (b) *Hatkhola*—Jute is imported into Hatkhola market both by railway and country boats. The fibre is unloaded and stored in *aratdars'* godowns by coolies who are paid 3 to 6 pies per md. according to distance. Weighing is done by men in the regular employ of the *aratdars*. The subsequent expenses incurred on the transfer of jute from *aratdars'* godowns to the buyers' premises are paid by the latter, and are the same as detailed above for Cossipore.

¹ See Ch. V, Sec. C 3 (a), *infra*.

223. (c) *Shambazar*—Arrivals in Shambazar market are either by carts, lorries or country boats, and the cost of handling ranges between 3 and 6 pies per md., according to the distance jute has to be carried to *aratdars'* godowns. The expenses are paid in the first instance by *aratdars* who, later, realise them from the sellers in the form of commission. Weighing is done by *aratdars' koyals* (weighmen) who are employed on a monthly wage basis. Buyers arrange and pay for all handling operations entailed in the removal of fibre from the *aratdars'* godowns, and its carriage to and storage in their own godowns. The charges of these three markets are shown in Table XXXIX.

224. (d) *Mills and Presses*—Jute from the upcountry markets is delivered to mills and press houses either by river or railway. When jute arrives by river route, the flats and barges are placed alongside the mill or press jetties. Inside the boats, the crews arrange 4 to 6 bales in rope or chain slings attached to electric or steam driven cranes, which hoist the bales to the jetties and place them on the waiting trollies. The buyers' coolies then take charge of the bales, and remove them for weighment and storage. The jute arriving in railway wagons is unloaded at the mill or press house siding where the handling operations are performed by the buyers' coolies. Formerly, this work was generally entrusted to contractors, but now more and more mills are taking it out of the hands of contractors and are maintaining their own staff to deal with the handling of jute within the mills' compounds. The expenses, therefore, vary slightly from one establishment to another, the average being approximately 6 pies per maund.

225. (e) *Standing charges of kutcha balers at Calcutta*—Whatever is spent by *kutcha* balers on account of the sale of their jute to Calcutta mills and presses, or at the loose jute markets, forms part of the handling expenses. Some balers, both European and Indian, maintain their own establishments in Calcutta. According to their statement, this item costs European merchants approximately one per cent. of the value of the jute sold; in addition they make a provision of another one per cent. for the payment of short weight claims. Thus, at Rs. 6-0-0 per md.—the average Calcutta price of jute in 1937-38—these two expenses amounted to about Re. 0-2-0 per md. Indian balers also estimated their standing charges in Calcutta at Re. 0-2-0 per md. Their

TABLE XXXIX
Handling Expenses at Terminal Markets.
(per 100 maunds)**

Aratdars' expenses				Calcutta balers' expenses†					Total handling expenses		Remarks
Market	Unloading and storing	Weighing at time of sale	Total	Loading on carts	Cartage to press houses	Unloading and storing	Weighing	Total	Per 100 mds.	Per md.	
Cossipore.....Rs.	∅	∅	—	0 14 3	2 11 0 §	0 12 0	0 9 0	4 14 3	4 14 3	9.4 pies	Balers receive from aratdars Rs. 6/4/- per 100 mds. for cartage.
Hatkholā... Rs	2 11 0	1 2 0	3 13 0	0 14 3	6 0 0	0 12 0	—	7 10 3	11 7 3	0 1 10	
Shambazar...Rs.	1 40 ∅	0 6 0	1 10 0	done by cartmen	2 11 0 §	0 12 6	—	3 7 6	5 1 6	9.8 pies	

** For the sake of uniformity, all the charges have been quoted per 100 mds.

† As 98 per cent. of the loose jute in terminal markets is purchased by balers (*vide* Ch. III, Sec. B3 (c), *supra*), their expenses only are given in this table.

∅ Arrivals are all by railway, and unloading is done by station coolies.

∅ Weighing is done by buyers' men at their premises.

§ Cartage rate varies according to distance, and may be even Rs. 4-11-0 per 100 mds.

∅ Depend on the distance jute is carried from unloading points to aratdars' godowns, and may be even Rs. 2-8-0 per 100 mds.

Source—Marketing Enquiry.

establishment costs are comparatively lower, but they require a slightly higher percentage of the value of the fibre to meet claims for short weight. Those *kutchas* balers, however, who do not maintain offices in Calcutta, may sell direct to mills and presses through a firm of brokers and pay the usual commission of 1 or $1\frac{1}{4}$ per cent., depending upon whether the contract is direct or on behalf of principals. The other alternative is to consign their goods to Hatkhola and Cossipore markets, in which case their expenses amount to Re. 0-3-1 and Re. 0-3-10 per maund respectively as shown previously.¹

6. SUMMARY.

226. It will be clear from this study that the costs on account of handling operations are nominal in villages and *hats*, amounting to 3 pies per maund at each point when hired labour is engaged. It is at the secondary markets that handling becomes an important item in the expenses incurred on the movement of jute from the producer to consumer, the average costs being Re. 0-1-6 per maund. Thus, assuming that all labour is paid for in villages and *hats* as well, the total handling costs up to secondary markets would amount to Re. 0-1-9 per maund on direct imports from villages, and to Re. 0-2-0 per maund on jute passing through *hats*. It has been shown in a previous diagram² that, in 1937-38, approximately 92.5 per cent. of the marketable surplus of jute reached the baling centres, and that 7.5 per cent. was taken from *hats* direct to the terminal markets. The imports from villages into baling centres amounted to 60.4 per cent. of the marketable surplus and the cost of handling incurred thereon was Re. 0-1-9 per maund. The remaining 32.1 per cent. passed through *hats* and involved handling expenses of Re. 0-2-0 per maund. These amounts were spent on the actual handling operations. The total handling costs incurred upcountry, however, and inclusive of the standing charges of *kutchas* balers, amounted to a maximum of Re. 0-5-9 per maund in the case of European balers and Re. 0-3-9 per maund for Indians. The case of the *daisce* districts is rather different; the expenses on handling operations are the same as in baling centres but the standing charges of *beparis* and *aratdars* are lower, being about Re. 0-1-0 per maund.

227. It will also be noticed in the diagram, referred to above, that in 1937-38, the direct imports into mills and presses from the upcountry markets amounted to 73.2 per cent. of the

¹ Cf. Table XXXVII, *supra*.

² Cf. Ch. III, Sec. C, *supra*.

marketable surplus. During the corresponding period, the arrivals in the three loose jute markets of Calcutta were approximately 2,200,000 bales—1,800,000 at Cossipore, 240,000 at Hatkhola and 150,000 bales at Shambazar—i.e. about 19 per cent. of the marketable surplus. The total handling expenses incurred in the case of direct imports into mills and presses were those involved upcountry plus the standing charges or commission to brokers in Calcutta, i.e. Re. 0-7-9 and Re. 0-5-9 per maund for European and Indian balers respectively. The handling costs involved in the sale of jute at Cossipore consisted of Re. 0-3-9 per maund incurred up-country (all sellers being Indian) and Re. 0-3-10 per maund at Cossipore¹ making a total of Re. 0-7-7 per maund. Similarly, the expenses incurred on jute sold at Hatkhola amounted to Re. 0-6-10 per maund. The case of fibre sold at Shambazar is somewhat different: all the arrivals being from primary markets, the expenses incurred were Re. 0-2-9 per maund upcountry² and Re. 0-5-2 at Shambazar³ making a total of Re. 0-7-11 per maund. At Rs. 6 per maund—the average Calcutta price of jute in 1937-38—the various sets of handling expenses represent—

8.1 †	}	% of the value of fibre in the case of	73.2%	of marketable surplus	(sold to mills and presses)
or 6.2 §					
7.9%	"	"	"	15.6%	of marketable surplus (sold at Cossipore)
7.1%	"	"	"	2.1%	of marketable surplus (sold at Hatkhola)
8.2%	"	"	"	1.3%	of marketable surplus (sold at Shambazar)
					(7.6% of marketable surplus represents the stocks carried over to new season)

† For European balers.

§ For Indian balers.

B. TRANSPORTATION.

1. GENERAL.

228. The importance of transport to the marketing of agricultural produce can hardly be exaggerated. It not only affects the price which the producer gets, but it also influences to a great extent the trend of his sales. In fact, the Marketing

¹ Cf. Table XXXVII, supra.

² Cf. Ch. IV, Sec. A4 and para 226.

³ Cf. Table XXXVII, supra.

Enquiry has established that the difficulties of communication are one of the major causes contributing to the early sale of jute by growers.¹ Satisfactory means of communications—permanent and easily accessible—are scarce in the jute growing areas. Transport facilities from the interior of the country to the assembling centres at river or rail heads, are not available all the year round. In some parts—i.e. low lying areas, liable to annual inundation—transportation is possible only for a few months after harvesting, while elsewhere—i.e. in highlands, served by fair weather tracks—communications become very difficult during the monsoon months and for some weeks after the rains have ceased. This lack of uniformity in transport conditions is detrimental to the regular flow of jute from the producer to consumer. The communications from baling centres to Calcutta are, however, vastly superior to those prevailing in the rural areas. Indeed, the two are so different that in order to get a proper perspective of the problem of jute transport, each will have to be discussed independently of the other.

2. INTERNAL COMMUNICATIONS.

229. Surface condition always has a predominating influence on the choice of the mode of transport. The physical features of the jute growing areas are such that none but primitive and slow means of communication can be adopted. One obvious disadvantage of this state of affairs is the increase in the time lag between the sales in villages and the arrivals in baling centres. Consequently, the peripatetic dealers are inclined to keep a big margin in hand, in order to compensate themselves against any possible fall in prices while the jute is in transit. The following are the means of transport in rural areas—

- (a) Country boats,
- (b) Bullock carts,
- (c) Pack animals, and
- (d) Headloads.

230. Every year, extensive areas of Eastern Bengal, which is responsible for the production of about 60 per cent. of the all-India jute crop, as well as the Sylhet and Goalpara districts are subject to inundation during the months of June to September, thus few roads are available. It is during this period, however, that communications in those parts are, as a rule, at their best,

¹ Cf. Ch. II, Sec. D, supra.

as the flooding of *bheels* and *khals* opens up channels of communication between villages and markets. These small waterways, being in the main narrow, meandering and of varying depths, are unsuitable for the operation of power driven craft. Consequently, country boats of different size, adapted to the requirements of local conditions, form the only means of transport in the interior of the low lying districts. After the cessation of the monsoon, the *bheels* and *khals* dry up and communication is rendered well nigh impossible till the ground is hard enough for the passage of pack animals and, later, bullock carts.

231. The conditions in the rural areas of North and West Bengal, Bihar, Orissa and other parts of Assam—Nowgong and Kamrup districts—are entirely different. Facilities for water transport do not exist to any appreciable extent. Metalled roads are few and far between, the countryside being served for the most part by fair weather tracks which become useless during the monsoon and remain so for some time afterwards. This state of affairs is largely responsible for the employment of bullock and buffalo carts which are well suited for traffic over rough and muddy *kutchas* roads. Moreover, they can pass through cultivated fields and over fallow lands, which in course of time serve as regular cartways. In those areas, where even these improvised tracks are not a practical possibility, transport is undertaken by means of pack animals and in the form of headloads. A great impediment to the development of road transport in the rural areas is the large number of rivers, streams, channels, etc., which are still unbridged. This necessitates either the adoption of circuitous routes with a view to fording the streams where they happen to be shallow, or of crossing them by ferry and paying the usual charges. The first alternative results in a waste of time and effort, while the second involves monetary loss to growers who have to bear ultimately the ferry charges.¹

232. (a) *Country boats*—The cultivators in low lying areas generally own small open boats (*dinghees*) which are suitable for use in *khals* and small streams only, but are not large enough for navigation in the main rivers. Moreover, their capacity is limited to a few maunds, and the goods carried in them are exposed to the elements. The fibre from villages and *hats* is

1. The ferry rights at important river crossings are auctioned to the highest bidders who install their own boats and fix charges for the various kinds of traffic handled.

usually carried to baling centres in large covered boats, owned or hired by *beparis*. These are strongly built wooden craft varying in capacity from 50 to 500 maunds, and carrying crews of three or four men in small boats and about ten in the larger ones.

233. In some of the most important secondary markets, such as Narayanganj, Chandpur, Charmugaria, Tarpassa, the bigger firms of balers employ barges for the collection of fibre from their outstation agencies. These barges have iron or wooden hulls, and carry cargoes up to 1,000 maunds. Small launches are used to tow them to and from the out-stations. During a season, these boats carry large quantities of fibre from the interior to the secondary markets, therefore they deserve a place in this review.

234. The costs of transportation by country boats depends on the mutual arrangements between the hirer and the boat men, as well as on the conditions obtaining *en route*. The rates are naturally higher for traffic against the current as also for shorter distances. For example, the average rate for distances of 5 to 10 miles works out to 2.2 pies per mile per maund, and to 1.1 pies for longer distances of 35 to 40 miles. The charges are lowest in Orissa, amounting to 1.1 pies per mile per maund while those in East Bengal, Assam and North Bengal average 1.7, 1.6 and 2.5 pies respectively.¹

235. (b) *Bullock Carts*—They are the mainstay of rural transport in North and West Bengal, Bihar, Orissa and the high-land areas of East Bengal and Assam (Nowgong and Kamrup districts). These are of the usual two wheeled type driven by a pair of bullocks or buffaloes. Bullock carts draw loads of 12 to 14 maunds while buffaloes haul approximately 18 to 20 maunds. Carts are employed for distances up to 30 to 40 miles, and their average speed, when fully loaded, is about 2 miles per hour. An effort has recently been made by a well known tyre producing company to popularise the use of iron wheels with pneumatic tyres for bullock carts, but the cost of the necessary equipment is beyond the means of the average cart owner, and instances of carts fitted with pneumatic rubber wheels are rare, at least in the rural areas.

236. The cost of transport by cart depends on the distance the goods are to be carried, the type of road, the season and the availability of carts. In common with other means of transport, rates for short distances are higher than those for longer dis-

¹ For details, see Appendix G.



Bepari's Boats with jute flats in Background

tances, say 15 or 20 miles. Again, charges over rough and muddy roads, or when rivers are to be crossed, are usually higher than those for dry or metalled roads. During the monsoon, the country roads are particularly bad and both men and animals work under considerable strain. Charges during this period, therefore, are higher than in the dry months. Further, if there is a shortage of carts, the rates are likely to go up. At places where carts have to compete for business with boats or motor lorries, the charges tend to be low. The cost of cartage is highest in East Bengal, where there are fewer roads, and averages about 3.5 pies per mile per maund. The lowest charges were reported in West Bengal and Orissa being 2.5 and 2.4 pies respectively. The comparatively high rate of 3.2 pies in Bihar is an indication of the difficulties of road transport there. The following average cart rates show the relative position in the various jute growing provinces of India.¹

Bengal	
East	... 3.5 pies per mile per md.
North	... 2.8 " " " " "
West	... 2.5 " " " " "
Bihar	... 3.2 " " " " "
Assam	... 3.2 " " " " "
Orissa	... 2.4 " " " " "

237. (c) *Pack Animals*—This means of transport is adopted principally in those low lying areas of East Bengal which are not served by roads and which are situated away from the river routes. The animals commonly employed are ponies which usually carry about 2½ to 3 maunds of fibre. There are a few markets where imports of this nature are considerable. For example, in 1937-38, 75 per cent. and 40 per cent. of the total arrivals in Kisoreganj and Ramamritaganj (Mymensingh) respectively, were by ponies. A record of rates paid was made at several representative markets. These were found to be variable and comparatively higher for shorter distances, as will be seen from the specimen charges shown below. The average charge per mile per maund works out to about 4.4 pies and may be considered somewhat expensive. Nevertheless, the importance of ponies lies in the fact that they provide means of transport in places where communication by any other method is not practicable.

¹ For details, see Appendix H.

TABLE XL.
Cost of Transport by Pack Horses

From	To	Distance	Rate per md.	Calculated rate per mile per md.
			R. a. p.	
Khalapara (Mymensingh)	Kishoreganj	3 miles	0 1 5	5.6 pies
Pavaikandi	do	4 "	0 1 7	4.8 "
Srimantopur	do	5 "	0 1 10	4.4 "
Trishal	Ramamritganj	9 "	0 4 0	5.3 "
Dhanigola	do	12 "	0 4 0	4.0 "
Nandail	Iswarganj	15 "	0 3 0	2.4 "

238. (d) *Headloads*—The employment of coolies for the transport of jute in headloads is confined to small areas only. In Bengal, this type of transport is prevalent to some extent in Dacca (Sadar sub-division) and Tippera districts, 20 and 18 per cent. of the total imports into the primary markets of the respective districts arriving in this way. Kamrup and Sylhet (Assam) are the other districts in which transport by headloads is undertaken regularly, 20 and 10 per cent. of the total imports in these markets respectively arrive in this manner. Jute can be carried in headloads over relatively short distances only, say 4 to 5 miles. The average weight carried by an individual is about one maund, but sometimes a man carries a heavier load by suspending bundles of equal weight on either side of a bamboo pole slung across his shoulder. Charges for short distances are generally higher, but there is no uniformity in rates, which largely depend on local custom. The following are specimen rates prevailing in the districts of Bengal and Assam mentioned above.

TABLE XLI
Cost of Transport by Headloads.

From	To	Distance	Rate per md.	Calculated rate per mile per md.
			R. a. p.	
Gazimura (Tippera)	Daulatganj	1 mile	0 1 0	12 pies
Tumulia (Dacca)	Kaliganj	1½ "	0 1 0	9 "
Devipur (Sylhet)	Mantala	2½ "	0 1 6	7 "
Beharchar (Dacca)	Monipur	3 "	0 1 9	7 "
Ajgara (Tippera)	Daulatganj	3½ "	0 2 0	6.8 "
Rajprosad (Dacca)	Raipura	4 "	0 2 6	7.5 "

The average on the basis of the above rates works out to 8.2 pies per mile per maund. This is a very expensive means of transport, and is employed in those areas only where road transport in any form is not practicable, and when the facilities of river transport have ceased to exist owing to the flood water receding from the villages.

239. (e) *Summary*—The proportions of the 1937-38 jute crop transported by various means from villages to secondary markets, and the costs involved therein, are summarised in the table below.

TABLE XLII
Arrivals into Secondary Markets by Various Means of Transport (1937-38)¹
(in percentages)

Means of transport	Bengal			Bihar	Assam	Orissa	Average cost per mile per md.
	East.	North	West				
Boats	85	15	5	10	45	39	1.9 pies
Carts	5	85	95	90	45	52	3.0 "
Pack animals	5	...	...	...	...	...	4.4 "
Headloads	5	...	...	...	10	9	8.2 "
Total	100	100	100	100	100	100	—

¹ The arrivals by motor lorries and railway were negligible.

It will be noticed that coolies (headloads) and pack animals form the most expensive means of transport and their employment is confined to small areas where no other means of communication is possible. Country boats and carts may, therefore, be regarded as the two principal means of transport in the jute growing areas. Their costs, though much higher than those of any of the modern means of transport—such as steamers, railways and motor lorries—may not be regarded as excessive in view of the fact that these services are usually performed under very trying conditions.

3. UPCOUNTRY MARKETS TO CALCUTTA.

240. The communications between secondary markets and the consuming centres are regular and dependable: steamers,

railways and road vehicles are usually employed for the purpose. The important jute growing areas of East Bengal and Assam afford natural facilities for water transport. Three important rivers, viz. the Ganges, the Brahmaputra and the Meghna, with their numerous tributaries, form a network of waterways which covers almost the entire length and breadth of the two provinces. Navigation of the main rivers, and even of the small feeders is, however, a difficult problem. Their levels and courses change frequently, and it is not uncommon for deep water channels to become unnavigable owing to sand banks within a week or two. In spite of all these difficulties, regular communication is possible between the markets in the riverine tracts and Calcutta, where 55 per cent of the total imports of jute arrive by waterways. According to trade estimates, about 95 per cent. of the river-borne traffic in jute is handled by steam navigation companies and the balance 5 per cent. by country boats.

241. The railways maintain regular services over, practically the whole of the jute growing tracts, but they are usually employed for carrying jute in those areas only where water transport is either not possible or is uneconomical. Broadly speaking, the railways serve the markets of North and West Bengal, Bihar, Orissa and parts of East Bengal and Assam.

242. Many markets of the *daisee* districts—e.g. Chandidolla, Singur and Sheoraphuli (Hooghly), Kalna (Burdwan), Domjur (Howrah), Baliaghata Bridge and Habra (24 Parganas) and some in the Jessore and Nadia districts—are linked with Calcutta both by railways and metalled roads. Formerly, bullock carts were the only means of transport by road, but recently motor lorries have been gradually replacing them. It has been reported that at present the greater proportion of the fibre brought to Calcutta from these markets arrives either by motor lorries or railways.

243. On the average of 5 years, 1934-35 to 1938-39, jute reached Calcutta by various means of transport in the following proportions.¹

Steamer services	...	52	%	of	total	arrivals	in	Calcutta
Railways	...	43	"	"	"	"	"	"
Country boats	...	3	"	"	"	"	"	"
Balance—by road (bullock carts and lorries)	...	2	"	"	"	"	"	"

¹ Compiled from the statistics published by the Bengal Chamber of Commerce.

244. (a) *Steamers—Cargo Flats and Barges*—Jute from the baling centres in the riverine tracts is generally transported, in baled form by cargo flats and barges which are towed by paddle or screw steam launches. Flats may be described as floating godowns, having steel hulls with corrugated iron sheet walls and roofs. Cargo space ranges from 7,000 maunds to 28,000 maunds. The smaller flats of 7,000 to 10,000 maunds are employed for carrying jute from markets situated in areas where rivers are shallow, and also when the goods are intended for transshipment at some point. The bigger flats are normally reserved for traffic from markets which can send sufficiently large quantities of fibre direct to Calcutta. Barges are flat bottomed boats having iron hulls, sides and decks. About two thirds of the upper deck is covered by heavy wooden battens, similar to the hatches of sea-going ships, and these are removed for loading or unloading. The barges vary in size, their capacity ranging between 350 and 3,500 maunds. They are not so commonly used for the carriage of jute from upcountry to Calcutta as for the collection of baled jute at small markets for transshipment to flats stationed at the larger centres. In Calcutta it is customary to unload flats, containing consignments for several mills or balers, into these cargo barges for subsequent delivery at the buyers' jetties. The charges for all transshipment throughout the service are borne by the steamer companies.

245. (i) *Inland Steamer Companies*—There are six steamer companies engaged in the transportation of goods over the inland waters of Bengal and Assam. The names and estimated proportions, according to the Marketing Enquiry, of the total river-borne traffic of jute carried by these companies are given below.

The India General Navigation and Railway Co., Ltd.**	...	35 %
The River Steam Navigation Co., Ltd.**	...	35 „
The Bengal Assam Steam Shipping Co., Ltd.	...	11 „
East Bengal River Steam Shipping Co., Ltd.	...	9 „
The Bengal River Service Co., Ltd.	...	4 „
The Indian Steamer Co., Ltd.	...	1 „
		95 %
Balance—carried by country boats	...	5 „

** The India General Navigation and Railway Co., and the River Steam Navigation Co. are by far the most important, although entirely

So far as the carriage of jute is concerned, the first four firms operate under an agreement, charging identical rates throughout their system. As will be explained later, they enjoy, by virtue of an agreement with the Indian Jute Mills Association and the Calcutta Baled Jute Association, the exclusive right of carrying jute by waterways for the members of these associations. They are therefore known as the 'agreement' or 'conference' companies.

246. The Bengal River Service and the Indian Steam Shipping Companies are outside the jute freight agreement. They have, therefore, a limited sphere of operation and, although their services extend to the principal markets along the main river routes, they depend for cargo on merchants who are not parties to the agreement. They have a small fleet of steamers, flats and barges and, according to trade estimates, carried about $3\frac{1}{2}$ per cent. of the total river-borne jute traffic in 1937-38. In 1938, the Bengal River Service Company increased its fleet of flats and barges, and is reported to have subsequently carried a greater quantity of fibre to Calcutta.

247. (ii) *Freight Rates*¹—The freight rates charged by the four major steamer companies are the outcome of the various agreements made from time to time between them and the principal jute interests in Calcutta. The first agreement was made in 1890 when, with the expansion of the trade in jute, the need for organised transport began to assume importance. The parties to this agreement were the India General Navigation Co., the River Steam Navigation Co., and the Bengal Assam Steamship Co., on the one hand, and the respective members of the Indian Jute Mills Association, on the other, the negotiations on behalf of the mills being conducted by a committee of the Association. According to its terms, the steamer companies undertook to provide cargo space for jute at all times while the mills agreed not to ship their jute by services other than those provided by the 'conference' companies, the transport by railways being an exception. No information is available about the freight rates fixed in 1890, nor is it known when and how many times the agreement was renewed before 1906 in which year the following

separate concerns, they work under a Joint Agreement, each maintaining an equal number of steamers, flats and barges, and are therefore referred to in trade circles as the "Joint Steamer Companies".

¹ *Vide Annual Reports of the Indian Jute Mills Association, 1931 onwards.*

special flat rates of freight were fixed.

1st July to 31st October	...	Re. 0-7-1 per md.
1st November to 31st December	...	" 0-6-3 " "
1st January to 30th June	...	" 0-4-9 " "

These rates remained in force till 1918 when they were increased owing to the high maintenance costs of the fleets and the rise in the prices of steel plates, ropes, paints, etc., as a result of the Great War. The revised rates were—

1st July to 31st December	...	Re. 0-8-7 per md.
1st January to 30th June	...	" 0-6-3 " "

It may be mentioned here that the first half of the jute season, i.e. from July to December, is termed the 'busy season' in view of the fact that the greater proportion of jute is despatched from upcountry to Calcutta during this period. The other six months, January to June, are called the 'slack season,' and the freight rate during this period is fixed at a lower level in order to attract traffic at a time when relatively small quantities of jute are transported.

248. The agreement was renewed in 1920 and freight rates were further enhanced as follows:

Busy season	...	Re. 0 9 6 per md.
Slack season	...	" 0 6 11 " "

The fourth agreement was made in 1926 for a period of five years, and the freight rates were increased on account of the acceptance by mills of a revised rate of discount for baled jute. Thus, the following rates were fixed, which are still in operation.

Busy season	...	Re. 0 10 0 per md.
Slack season	...	" 0 7 3 " "

These rates are subject to a graduated discount for baled jute as allowed by the Eastern Bengal Railway¹ and shown below.²

Full pressed bales of 5 mds. and measuring up to 10½ c. ft.	...	25 %
Half pressed " " 4 " "	"	13½ " ... 22½ "
" " " 3½ " "	"	13½ " ... 20 "
" " " 1½ " "	"	5.88 " ... 20 "

In 1929, the Calcutta Baled Jute Association also entered into a similar agreement with the 'conference' companies. Since then, its policy in this matter has been identical to that of the Indian Jute Mills Association. In 1931, the agreement was renewed

¹ *Vide* Report of the Indian Jute Mills Association, 1931, p. 150.

² *Vide* Eastern Bengal Railway, Jute Tariff Part I, p. 10., 1938,

again for a period of three years, the freight rates remaining unaltered. In that year, the East Bengal River Steam Service Company also joined the 'conference' companies.

249. When the agreement was extended in 1931, the jute industry was passing through a period of acute trade depression. The price of raw jute had declined to about Rs. 3-8-0 per maund, and the busy season freight rate of 10 annas per maund was considered excessive.¹ Moreover, the mills and balers, who were parties to the agreement, had to contend with greater competition from those who, not being party to it, could get their jute transported at much lower rates by the 'outside' steamer companies and country boats. The *kutch*a balers also represented to the Indian Jute Mills Association that the reduction of freight was essential; but the latter, having signed the agreement which was due to expire in 1934, expressed its inability to press for a reduction in freight. It, however, indicated its readiness to recommend to its members that they should enter into a new agreement only if the steamer companies would accept a reduced scale of freight.

250. In 1934, the nominees of the various jute trade associations met the representatives of the four steamer companies and both sides put forward their arguments for and against the revision of freights. Eventually, a new agreement was entered into for two years and, though the basic rates were not altered, the steamer companies instituted a system of deferred rebates on busy season rates for all-steamer service from selected stations where the competition with the 'outside' steamer companies and country boats was very keen. In practice, however, the rebates actually operate as reductions in freight allowed to *kutch*a balers on the condition that all the jute despatched by them by river is conveyed by the 'conference' companies. They forfeit all claim to rebates if they send fibre by other vessels even though it be consigned to mills and presses not signatories to the agreement.

251. When the agreement was renewed in 1936, the rebates agreed upon in 1934 were further increased. Another important change was the reduction of 'busy season' rates from Re. 0-10-0 to Re. 0-9-0 per md. in the case of Serajgunj and Sarisabari. The original 1934 and the revised rebates are shown below. The

¹ *Vide* Report of Indian Jute Mills Association, 1932, p. 336.

TABLE XLIII
Original and Revised Rebates on Steamer Freights.

Station	Original deferred rebates (1934) per md.	Rebate under 1936 agreement per md.		Rebate increased in 1936 by
	R. a. p.	R.	a. p.	
Narayanganj, Dacca, Chandpur and Aldengunge	0 1 0	0	1 6	50%
Charmugaria and Madaripur	0 2 0	0	2 6	25 „
Bharamganj, Japsa Nuria and Nilkundi	0 1 6	0	2 3	50 „
Tarpassa and Mainat	0 1 6	0	2 3	50 „
Elashin, Sadhuganj and Bera	0 2 0	0	2 6	25 „
Bhairab Bazar, Narsingdi and Ashuganj	0 0 6	0	1 0	100 „

Source—Report of the Indian Jute Mills Association, 1936.

freight rates in force at present are the basic rates introduced in 1931, subject to the deferred rebates instituted in 1934 and revised in 1936, and are shown in Table XLIV overleaf. The slack season rate is Re. 0-7-3 per maund from all stations less discount for baled jute quoted above.

252. Apart from the deferred rebate, which is earned by the loose jute shippers, i.e. *kutcha* balers, there are other rebates also which are allowed to the buyers, i.e. the mills and *pucca* balers. One is called the 'full-flat-load' rebate granted at the rate of 4 pies per maund when at least 14,000 maunds of jute are shipped by one merchant, from one station, in one vessel and to one consignee.¹ The buyers are entitled to yet another rebate, at a graduated scale, if they release the steamer companies' flats and barges as soon as practicable.² The following are the rates of 'quick unloading' rebate, as it is called. For unloading at the rate of—

3000 mds. per diem of 12 hours, a rebate of	4	pies per md.
4000 " " " " " " " "	5	" "
5000 " " " " " " " "	7	" "
6000 " " " " " " " "	10	" "

¹ Report of the Indian Jute Mills Association, 1931, p. 158.

² Ibid.

TABLE XLIV
*Net Steamer Freight Rates for Loose Jute to Calcutta.*¹ (per md.).

From	Busy Season						Slack Season
	1934			1936			
	R.	a.	p.	R.	a.	p.	
Narayanganj	0	9	0	0	8	6	Unchanged at Re. 0-7-3
Serajganj	0	10	0	0	9	0	
Jagannathganj	0	10	0	0	9	0	
Sarisabari	0	10	0	0	9	0	
Bera	0	8	0	0	7	6	
Sadhuganj	0	8	0	0	7	6	
Dacca	0	9	0	0	8	6	
Tarpassa }	0	8	6	0	7	9	
Mainat }							
Chandpur	0	9	0	0	8	6	
Charmugaria	0	8	0	0	7	6	
Madaripur	0	8	0	0	7	6	
Bharamganj	0	8	6	0	7	9	
Japsa	0	8	6	0	7	9	
Nuria	0	8	6	0	7	9	
Nilkundi	0	8	6	0	7	9	
Bhairab Bazar	0	9	6	0	9	0	
Ashuganj	0	9	6	0	9	0	
Narsingdi	0	9	6	0	9	0	
Elashin	0	8	0	0	7	6	
Aldenganj	0	9	0	0	8	6	

¹ Subject to discount for bales as per E. B. R. Jute Tariff Rules.

Source:—Report of the Indian Jute Mills Association 1934 and 1936.

The Conference companies charge slightly higher freight, referred to in trade circle as 'non-agreement rates,' from merchants who are not parties to the agreement. Comparative agreement and non-agreement rates for a number of stations are noted below.

TABLE XLV
Freight to Calcutta as charged by Conference Companies.
 (per 3½ mds. bale)

From	Busy season						Slack season					
	Agreement rates			Non-agreement rates			Agreement rates			Non-agreement rates		
	R.	a.	p.	R.	a.	p.	R.	a.	p.	R.	a.	p.
Narayanganj	1	12	0	1	12	0	1	4	4	1	5	8
Dacca	1	12	0	1	12	0	1	4	4	1	5	8
Narsingdi	1	12	0	1	13	5	1	4	4	1	5	8
Elashin	1	12	0	1	9	3	1	4	4	1	5	8
Tarpassa	1	12	0	1	10	7	1	4	4	1	5	8
Sarisabari	1	9	2	1	9	2	1	4	4	1	4	4
Charmugaria	1	12	0	1	7	10	1	4	4	1	5	0

Note—No rebate is allowed on non-agreement rates.

The two steamer companies not signatories to the agreement quote freight rates identical to those of the Conference Companies, but it is reported that they allow comparatively higher rebates in order to secure business.

253. (b) *Country Boats*—A fairly steady service is maintained by large country boats for the transport of jute to Calcutta mostly from the markets in the *daisee* districts, and also from those in the riverine tracts of Bengal and Assam. It is interesting to note that most of these craft do not belong to Bengal, but are brought down the Ganges from the United Provinces (e.g. Mirzapore) for the jute season. The capacity of these boats ranges between 1,000 and 2,000 maunds. There are often as many as fifteen men in the crew who, in addition to their duties of navigating, assist in the loading and unloading of goods. These boats are propelled by means of sail and oars and, when favoured by wind and tide, can outsail many steam driven vessels. The cost of transport by country boats is always a matter of mutual arrangement between the *kutcha* baler and the boat owner, and is generally influenced by the extent of competition from other means of transport, the condition of rivers, weather considerations and the quantities and distances the goods are to be carried.

254. (c) *Railway Transport*—Railways are a fast and very dependable method of transport. Apart from the large quantities of jute brought by railways to Calcutta mills, markets and presses—about 43 per cent. of the total arrivals in Calcutta—almost the entire amount of fibre consumed by mills elsewhere (i.e. in Bihar, U. P. and Madras) is carried by this means. Moreover, railways carry a fair quantity of jute from primary markets and outstation agencies to the baling centres as well.

255. A merchant intending to despatch jute by railway is required to sign his name in the Goods Register, specifying the quantity and destination of his consignment. (The well-known firms may apply for registration by letter.) A condition precedent to all registrations is that the goods should be ready for despatch. Under normal conditions, wagons are available within a few days of registration, but in exceptional circumstances the merchants may have to wait even for a month. According to the Goods Tariff of the Eastern Bengal Railway, the wagons, when available, are to be allotted strictly in the order of registration, but it is difficult to say to what extent these rules are followed in actual practice. Closed wagons are invariably used for transporting jute, and vary in capacity from 150 to 400 maunds. When consigned in entirely loose condition—i.e. unbaled—the senders have to pay

for the total carrying capacity of the wagon whether they supply a full load or not. When jute is despatched in baled form, the senders are required to mark the code initials of the despatching and receiving stations on the bale tab.

256. (i) *Railway systems*—A number of railway systems—consisting of broad, metre and narrow gauges—operate in the jute growing areas, prominent among them being—

Eastern Bengal Railway (Broad and metre gauge),
 Assam Bengal Railway (Metre gauge),
 Bengal Nagpur Railway (Broad gauge),
 East Indian Railway (Broad gauge),
 Bengal & North-Western Railway (Metre gauge) and
 Martin's Light Railways (Narrow gauge—22").

From the point of view of the transport of jute, the Eastern Bengal Railway is the most important system. This railway and the Assam Bengal Railway cover, between them, practically the whole of the jute tracts of Bengal, Bihar and Assam. In addition to the Eastern Bengal Railway, the district of Murshidabad is also served by the East Indian Railway, and 24 Parganas by Martin's Light Railway. Other minor jute districts—viz. Hooghly, Howrah, Burdwan and Midnapur—are covered singly or jointly, by the East Indian Railway, Bengal Nagpur Railway and Martin's Light Railway. The Bengal & North-Western Railway conveys the fibre from the growing areas in Purnea to mills in Bihar and the United Provinces, while the Bengal Nagpur Railway transports jute from Calcutta and Orissa to the mills in the Madras Presidency. The jute consigned to mills situated on the right bank of the Hooghly; within the Calcutta mills area, is delivered by the East Indian Railway and Bengal Nagpur Railway, by arrangement with the Eastern Bengal Railway. Messrs. Martin & Co.,¹ run four light railway services over short distances in the districts of Hooghly, Howrah and 24 Parganas. They carry a fair quantity of *daisee* fibre to stations located near the terminal markets at Calcutta and to the baling presses in Howrah. Other railways which handle small quantities of jute are the Darjeeling Himalayan Railway and the Bengal Doors Railway.

257. (ii) *Railway transshipment points*—The railways which do not touch Calcutta—viz. the Assam Bengal, Bengal & North-Western, Darjeeling Himalayan and Bengal Doors—connect with

¹ A large firm of Engineers and Managing Agents in Calcutta.

MAP OF BENGAL

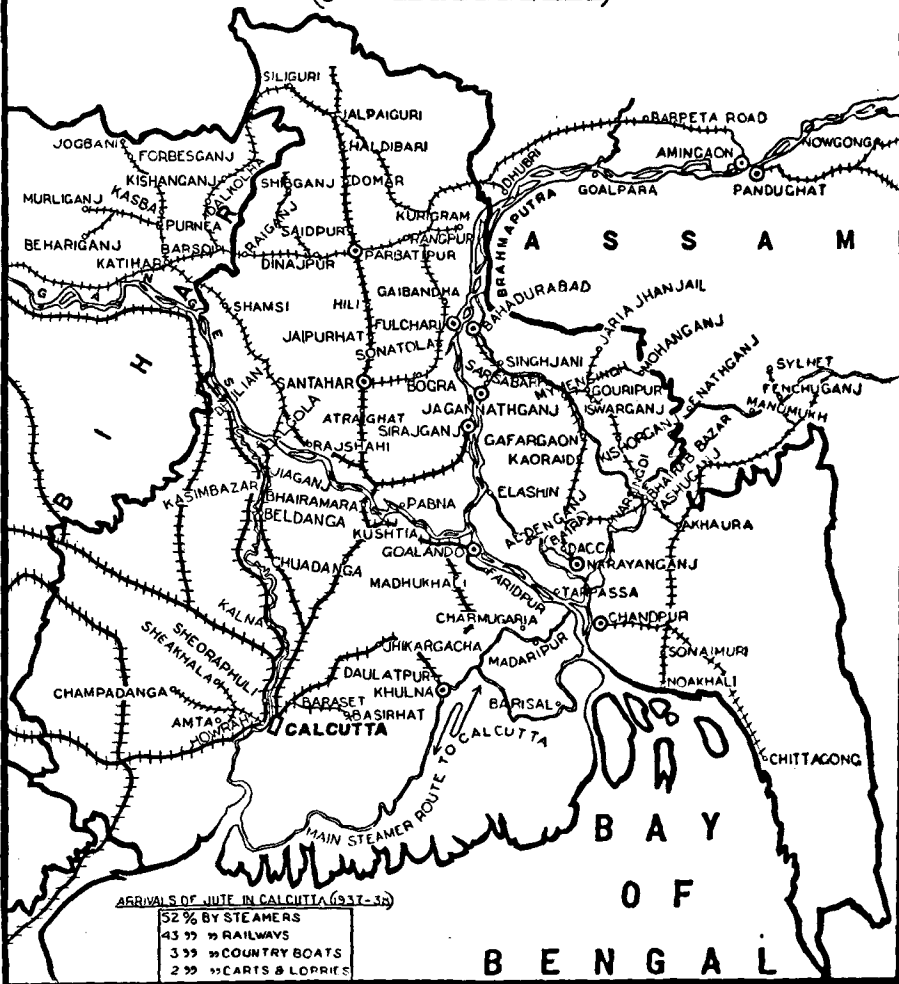
SHOWING

RAILWAY & RIVER COMMUNICATIONS

WITH

IMPORTANT JUTE MARKETS.

(⊙ — TRANSHIPMENT POINTS)



the Eastern Bengal Railway at various junctions throughout the jute producing provinces. For example, the Assam Bengal system links up with the Eastern Bengal Railway at Dacca and Mymensingh (in East Bengal), while the B. & N. W. Ry. establishes contact at Katihar (in Bihar), and the Bengal Doorgas at Lalmonirhat (in North Bengal). The Darjeeling Himalayan Railway meets the E. B. Ry. at Kishanganj and Siliguri in Bihar and Bengal respectively. As the other railway systems connecting with the E. B. Ry. at the various junctions, are operated on metre or narrow gauge, the jute consigned to Calcutta is transhipped to the broad gauge system of the major company at the stations mentioned above. The fibre despatched to Calcutta from stations on the metre gauge system of the E. B. Ry. is transhipped to its broad gauge track either at Santahar or Parbatipur, its two principal transshipment centres.

258. In certain areas, the change-over, from one railway system to another or from the metre to the broad gauge, entails the crossing of either the Brahmaputra or the Jamuna rivers. In such cases, the goods are either transferred from wagons to flats which are towed across, or the wagons are placed on suitable craft and ferried across the river and run on railway tracks. For example, the jute consigned to Calcutta from stations on the Dacca section of the Eastern Bengal and Assam Bengal Railways is transferred to flats either at Jagannathganj or Narayanganj and loaded in wagons again at the E. B. Ry. broad track stations of Serajganj and Khulna respectively. Similarly, fibre from the district of Nowgong in Assam is brought down by the A. B. Ry. to Pandu where it is loaded in flats and ferried across the Brahmaputra to Amingaon, one of the E. B. Ry. termini (metre gauge) in Assam. The transfer to broad gauge track takes place at Parbatipur. On the other hand, a wagon-ferry service operates between Bahadurabad—north-west of Mymensingh—and Fulchari—in Rangpur district (North Bengal). The fibre is transferred to the broad gauge wagons at Santahar.

259. (iii) *Combined Services*—Ordinarily, the term 'combined service' implies the employment of more than one means of communications in the transport of certain goods. In the jute trade, however, it is used to signify the steamer-cum-railway transport service maintained by the four 'conference' (or 'agreement') steamer companies and the E. B. Ry. The principal object of the service is to accelerate delivery from markets

primarily served by water transport. The goods are carried, in cargo flats and barges, to any of the connecting transshipment points, noted below, whence they are conveyed by railway to Calcutta.¹ From stations in Mymensingh, Dacca and Tippera districts to Calcutta, by any of the following routes—

- (1) *Via* Narayangunj and Khulna,
- (2) „ „ „ „ Goalundo,
- (3) „ „ Jagannathganj and Serajganj,
- (4) „ „ Chandpur and Khulna.

A flat rate of freight is quoted for the combined service and includes the *ghat* charges and the cost of transshipment.²

260. (iv) *Railway deliveries*—The Eastern Bengal Railway delivers jute at the consignees' premises and in the goods shed at Cossipore, and at Ruthtola, Baghbazar, etc., by arrangement with the Calcutta Port Commissioners' Railways. The deliveries at buyers' premises may be at their railway sidings or jetties, and godown deliveries are arranged by motor lorries. A large number of mills and presses have extensions of railway track from the nearest stations to their premises, and wagons are hauled down to these sidings by the railway authorities. As jute is carried in closed wagons with sealed doors, the buyer, or his representative, makes sure that the seals are intact before allowing the wagons to enter his premises. If any seal is broken he can refuse entry and advise the railway authorities accordingly, in which case they send a representative to inspect the seals and to be present at the time of unloading.³ If any shortage is discovered at that time, the railway is held responsible. But, once the mills or press houses accept the wagons, whether with seals broken or intact, the responsibility of the railway ceases even if short delivery is discovered later on.

261. The Eastern Bengal Railway accepts consignments for delivery by river at mills and press house jetties. Such goods are brought down by railway to Chitpore Ghat Station, where

¹ The map on the opposite page illustrates the various railway transshipment stations and the 'combined services' areas.

² A few specimen freight rates by the combined service are given in Appendix I.

³ Railways allow 9 hours of daylight for the loading or unloading of a wagon. When this period is exceeded, they charge demurrage at the rate of one anna per hour per ton of the carrying capacity of the vehicles.

they are transhipped to barges and, thus, delivered to the consignees. The barges are owned by Messrs. The Calcutta Landing and Shipping Co., Ltd., who, for the purpose of this service, have entered into a contract with the railway authorities. When goods are sent for delivery by river service, the freight charged is inclusive, the share of the contractors being subject to a mutual agreement between them and the railway.

262. When the buyers do not have either railway sidings or jetties, the railway arranges for the delivery of goods by motor transport. The jute intended for delivery by this means is consigned to Chitpore or Ultadanga stations situated in the northern section of Calcutta. Rates are charged according to distance and range from 5 pies to 1 anna 3 pies per maund.

263. (v) *Railway Freight Rates*—Jute is classed by the Railway Board as a sixth class agricultural commodity, and the maximum and minimum freight rates have been fixed at 0.83 pies and 0.166 pies per maund per mile respectively. The E. B. Ry. quotes special freight rates for traffic between a large number of selected stations in the jute growing areas and Calcutta, as also between any two selected stations upcountry. The rates are fixed within the classified limits, and vary according to the volume of traffic and the extent of competition with the other means of transport. Where, however, the special station to station rates are not quoted, the full classified rate of 0.83 pies per maund is charged for loose (*i.e.* unbaled) or drummed jute. The freight for baled jute is also calculated on the same basis, but is subject to the following discount.

Weight and dimension of bales ¹	Discount	Effective rate per mile per md.
5 mds. <i>pucca</i> bale—10½ c. ft.	25 %	0.62 pies
4 " <i>kutcha</i> " —13½ "	22½ "	0.64 "
3½ " " " —13½ "	20 "	0.66 "
1½ " " " —5.83 "	20 "	0.66 "

A few specimen special freight rates are given overleaf. The other railways also quote special freight rates when the volume of traffic is large enough to permit of such arrangement. For example, the greater proportion of the fibre consumed by the Cawnpore mills is drawn from Bihar and North Bengal, and

¹ The dimensions have been changed since 1939.

TABLE XLVI
*Special Freight Rates from Selected Stations
 to Calcutta (Cossipore)*

Station of despatch	Miles from Calcutta	Unbaled jute		Baled jute	
		Rate per md.	Calculated rate per mile per md.	Rate per 4 md. bale	Calculated rate per mile per md.
		R. a. p.		R. a. p.	
Bhangoora	165	0 9 8	0.70 pies	1 14 0	0.54 pies
Rajsbahi	176	0 8 1	0.54 "	1 8 0	0.40 "
Serajanj Ghat	199	0 9 4	0.56 "	1 12 11	0.43 "
Sukhanpukhar	226	0 12 7	0.66 "	2 7 0	0.51 "
Fulchari	251	0 12 1	0.58 "	2 5 6	0.45 "
Gaibandha	255	0 11 6	0.54 "	2 3 8	0.42 "
Kurigram	306	0 11 5	0.44 "	2 3 5	0.35 "
Bhadrungamari	321	0 11 6	0.43 "	2 3 8	0.33 "
Dhubri	350	0 13 1	0.46 "	2 8 7	0.35 "

Source—E. B. R. Jute Tariff, 1938.

the B. & N. W. Ry. charge freight at Re. 0-7-6 per md. on baled jute from Katihar to Cawnpore, a distance of 530 miles: this works out at 0.17 pies per mile per maund. Similarly, the B. N. Ry. charges 0.34 pies per mile per maund from East Docks, Calcutta, to Raigarh (C.P.), where a small jute mill is established, and only 0.17 pies to Nellimarla Mills near Vizagapatam (Madras). The E. I. Ry. likewise, quotes special rates between important stations, e.g. Re. 0-11-2 per maund from Lucknow to Cossipore Road—i.e. 0.23 pies per mile per maund—on the fibre going from the U.P. markets (Lakhimpur) to Calcutta. Compared with the Eastern Bengal Railway, however, these systems play a minor role in the jute trade.

264. (d) *Motor Lorries*—Motor lorries, as a means for transporting jute, have not attained great importance in the jute growing areas as a whole, which is probably due to the paucity of good roads. Nevertheless, it has been noticed that in the localities well served by roads, motor transport is gradually gaining an ascendancy over carts. For example, according to trade information, fibre from the *daisee* districts is brought to the Calcutta markets by motor lorries in ever-increasing quantities. Instances of the transportation of jute by lorries in other districts are, however, negligible; Mymensingh and Palashbari (Kamrup—Assam) may be mentioned as the only upcountry markets where a small percentage of the total arrivals is brought by lorries. The vehicles commonly used are the open trucks,

with or without collapsible sides and backs, carrying from 50 to 70 maunds of bundled or drummed jute. The rates vary according to local conditions and are generally lower for long distances as will be seen below in the case of 24 Parganas.

TABLE XLVII
Cost of Transport by Motor Lorries.
(from primary markets to Calcutta).

From	To	Distance (miles)	Type of road	Rate per standard maund	Cost per mile per maund
				<i>R. a. p.</i>	pies
Kamdevpur	Belgatchia	15	metalled	0 2 0	1.6
Habra "	"	25	"	0 3 0	1.4
Barachampa "	Shambazar	25	"	0 2 6	1.2
Kholapeta "	"	32	"	0 3 0	1.1
Bashirhat "	"	36	"	0 3 0	1.0
Weighted average—					1.3

Source—Marketing Enquiry.

4. TRANSIT INSURANCE.

265. There is no record of jute being insured at any point during its transit from villages, *hats*, primary markets or balers' outstation agencies to the baling centres. The fibre exported from the secondary markets, however, is almost always insured against loss or damage in transit, the exceptions being the despatches by country boats, motor lorries and carts. As the sellers contract to deliver jute at buyers' premises, they are responsible for transit insurance; but, according to the Inland Water Transport Agreement,¹ the mills and balers have to arrange the necessary insurance cover and pay the premium. Actually, however, the baler—or, on his behalf, the broker through whom he deals—takes out 'open cover' each season for the various buyers to whom he expects to despatch jute. At the time of commencing loading he issues a 'Loading Notice' to the insurance company, and when it is completed he sends a declaration quoting the open cover number and instructs the insurance company to issue the policy to the buyer concerned. The Insurance Company charges the seller for the premium;

¹ The agreement between jute mills and baling presses, on the one hand, and the steamer companies, on the other, is sometimes referred to by this name.

but, in a few exceptional cases, the buyers have an arrangement with the insurance companies and themselves pay the premium. When this is done, the sellers deduct a corresponding amount from their bills for the jute. The insurance rates vary according to the type of transport employed, and are approximately as follows:

By railway	...	...	2 as. per Rs. 100
By combined service	...	...	5 " " " 100
By steamer	...	...	7 " " " 100

It will be noticed that railways enjoy a distinct advantage over steamers. When calculated on the basis of Rs. 6-0-0 per maund—the average Calcutta price of jute in 1937-38—the insurance rates amount to 1½ pies per maund for transport by railway, and 4 and 6 pies by combined services and steamers respectively.

5. COMPETITION BETWEEN VARIOUS MEANS OF TRANSPORT.

266. (a) *Road and Railways*—Competition between motor lorries and railways, in so far as it concerns the transport of jute, is confined to traffic from the *daisce* districts to Calcutta. Motor lorries are preferred owing to their availability at short notice and also due to the saving in handling costs on account of their ability to deliver the fibre at any particular spot in the buyers' premises. The utility of railways for carrying very large quantities at a time is, however, undeniable. Specimen motor and railway rates from common points are given below, and it will be seen that lorries provide a slightly cheaper means of transport.

From	To	Rate by motor lorry	Freight charged by Martin's L. Ry.
		R. a. p.	R. a. p.
Berachampa	Shambazar	0 2 6 per md.	0 2 10 per md.
Bashirhat "	do	0 3 0 " "	0 3 2 " "
Kholapota "	do	0 3 0 " "	0 3 7 " "

267. There is practically no competition between carts and railways as both have separate spheres of operation. Carts are employed, in the main, for the transport of jute from rural areas to primary and secondary markets, while railways operate mostly between the secondary and important primary markets

and the terminal markets at Calcutta. There are a few instances, however, where both carts and railways are available for the transport of jute from the primary to secondary or terminal markets. In such cases, the railway enjoys a definite advantage as it can carry large quantities fully protected against weather, takes less time in transit, and charges considerably lower rates. For example, the railway freight from Haripal to Sheoraphuli (Hooghly)—a distance of about 20 miles—is 3 annas per md. while the cartage between the same points is 4 annas per md. The advantage of cheaper freight is, however, partially offset by the cost of cartage to and from the railway stations.

268. (b) *Steamer and Railways*—These are the two principal means employed for the transport of jute from secondary markets to Calcutta, and geographically each has its own area of operations. But, there are certain points—e.g., Khulna, Serajganj (Pabna) and Goalundo (Faridpur) in Bengal and Dhubri and Pandu Ghat in Assam—from where communication is possible both by railway and steamer. Apart from these, which may be termed 'direct competitive points,' there are other areas where there is keen competition between the two means of transport though not from common points. For example, in Pabna district, the Sara-Serajganj section of the Eastern Bengal Railway traverses an area where the steamer services operate during the busy season only. Similarly, in Faridpur district, the Bhatiapara—Kamarkhali section of the railway, runs across a country intersected by rivers with good steamer services. Ordinarily, in such areas, the balers despatch goods by railway when quick transit is the chief consideration, and by steamer when the time factor is not important and a saving in freight is aimed at. The busy season railway and steamer freights from direct competitive points and the time taken in transit by each are shown in Table XLVIII overleaf. The railway is distinctly the quicker mode of transport, and its river delivery services at Calcutta cancels the advantage which the steamer companies would otherwise have exclusively claimed in the matter of deliveries. Conversely, steamer transport offers the advantage of lower freight which is not neutralised even by the higher transit insurance rates. (As shown before, it is 5 pies per maund for steamer transport against $1\frac{1}{2}$ pies by railway). In the following table, the difference between the respective freights is least in the case of Goalundo, being 7 pies per md. Even with

the higher insurance charges for steamer transit, transport by steamer still remains cheaper by 3½ pies per maund.

TABLE XLVIII
*Comparative Freight Rates by Railway and
Water Transport.*

Station of despatch	Miles from Calcutta		Approximate time taken (days)			Freight (per md.)		
	Railway	River	Railway	Steamer	Country boat	Railway	Steamer	Country boat
Serajganj	199	543	3	6-7	10-14	R. a. p. 0 7 8	R. a. p. 0 7 2	R. a. p. 0 4 6
Goalundo	155	475	2	5-6	8-10	0 5 10	0 5 3	0 4 9
Dhubri	340	889	3-5	10-14	14-18	0 10 6	0 7 9	0 5 9
Pandu Ghat	473	823	5-7	16-20	25-30	1 0 0	0 8 0	—
Khulna	109	325	2	3-4	—	0 4 6	0 2 6	—

269. (c) *Country boats, steamers and railway*—There is not much evidence of any serious competition between the steamers and railways on the one hand, and the country boats on the other. The latter, ordinarily, serve small markets which are situated away from the regular steamer routes. It is not uncommon, however, for country boats to pick up cargo at large railway and steamer shipment points. The only attraction in them is the low freight rate, but against it one has to take into consideration their lack of speed. For instance, the freight by country boat from Dhubri to Calcutta is Re. 0-5-9 per md. while it is Re. 0-7-9 by steamer. Again, the freight by combined service from Mohanganj (Mymensingh) is Rs. 2-4-5 per bale of 4 mds. (i.e. 0-9-1 per md.) and only Re. 1-0-0 per bale (i.e. 0-4-0 per md.) by country boats. Chuadanga (Nadia) may be cited as another example, whence the railway freight to Calcutta is Re. 0-2-8 per md. whereas it is only Re. 0-2-0 per md. by country boats.

6. PERIODICITY OF ARRIVALS IN CALCUTTA.

270. The percentages of the monthly arrivals of jute in Calcutta for the last five years, 1934-35 to 1938-39, are shown in Table XLIX. In normal years, imports are very small during July which is the first month of the jute season. From that time onwards, the arrivals increase until the peak is reached in October. Afterwards, there is a distinct falling off. Thus,

TABLE XLIX
Monthly Arrivals of Jute in Calcutta.
 (in percentages)

Season	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.
1934-35	4.3	8.1	13.2	14.4	10.9	9.2	11.7	7.1	4.9	4.8	6.1	5.6
1935-36	5.7	6.0	9.9	16.4	14.0	9.8	9.1	6.3	6.5	5.4	5.4	5.4
1936-37	3.3	6.8	12.8	16.9	13.7	10.4	9.7	6.8	6.5	5.7	4.9	2.3
1937-38	2.4	6.4	13.3	17.6	14.2	9.6	7.6	6.9	8.2	5.9	4.0	3.9
1938-39	6.3	9.7	13.0	16.9	14.3	8.9	9.6	9.5	5.8	3.3	2.0	0.7

the four months, September to December, may be considered as the busiest period for imports into Calcutta: in all, over 53 per cent. of the seasonal arrivals take place within that time.

271. If no storage is done at the intermediate points, the movement of jute from villages to Calcutta markets ordinarily takes about 4 weeks; therefore, if allowance is made for the time lag between the various marketing stages, the imports into Calcutta will be found to follow the trend of sale by growers. This is borne out by the fact that the imports into Calcutta, from July to December 1937, amounted to about 64 per cent.¹ as against 69 per cent.² sold by the Bengal growers up to the end of November 1937. The sales by growers in Bihar and Assam during the corresponding period amounted respectively to 75 and 89 per cent. But a large quantity of Bihar jute is required for the consumption of the mills in that province, and a fair proportion is despatched direct to the Cawnpore mills. Further, a fair proportion of Assam jute finds its way to Calcutta through the various secondary markets of East Bengal.

7. SUMMARY.

272. The table below illustrates the proportions of the total arrivals of jute into Calcutta by steamer, railway and country boat during 1934-35 to 1938-39. The statistics for imports by road are not available as no record has been kept since 1923. Until that year, toll gates for registering traffic were operated on all the main roads leading into Calcutta, and regular returns of jute arrivals were compiled. Since the removal of these gates, the trade has accepted a figure—2 per cent.—which is

¹ Cf. Table XLIX, supra.

² Cf. Table XXVIII, supra.

based on the proportions formed by road arrivals to the total imports during the fifteen years prior to 1923.¹

TABLE L.
Arrivals of Jute in Calcutta by Steamer, Railway and Boat
(in percentages)

Season	Flats & barges	Railway	Country boat
1934-35	48.4	46.4	5.2
1935-36	55.3	39.7	5.0
1936-37	52.7	43.5	3.8
1937-38	54.0	42.6	3.4
1938-39	54.1	42.6	3.3
Weighted average	52.8	43.0	4.2

Source—Reports of the Bengal Chamber of Commerce.

It will be seen that despatches of jute by steamer are greater than those by railways. This is due to the fact that the most important jute growing areas lie in the riverine tracts of East Bengal: the districts of Mymensingh, Dacca, Tippera and Faridpur are, between them, responsible for the production of about 45 per cent. of the total outturn of jute in India. Again, the districts of Goalpara and Sylhet in Assam, and the eastern parts of North Bengal are served, in most cases, both by steamer and railway; and, as the steamer freights are cheaper, merchants despatch jute by railways only when they desire quick transportation. The railways, therefore, have comparatively a less productive area to serve. Compared with 1934-35, the recent seasons show a slight decrease in the proportions of jute arriving into Calcutta by railways. This may primarily be due to the institution of deferred rebates by steamer companies in 1934 and 1936, and the consequent reduction in net freight from selected stations. The low prices ruling during the period under review may have also been instrumental in restricting the employment of combined services for consignments from East Bengal. A third explanation may be the establishment of jute mills in Bihar in 1935, which

¹ The Indian Central Jute Committee is collecting statistics of direct road arrivals with the co-operation of the Indian Jute Mills Association, Calcutta Baled Jute Association and Belgatchia Jute Aratdars Association. It is expected that complete figures will be available at the end of 1940-41 season.

accounted for an estimated consumption of 162,000 bales of jute in 1936-37 and of 191,000 in 1937-38, i.e. 1.5 and 1.8 per cent. respectively of the total arrivals in Calcutta.

273. The amount of fibre imported by means of country boats has declined steadily from 5.2 per cent. in 1934-35 to 3.3 per cent. in 1938-39. This is probably due to the increasing facilities offered by the agreement companies as well as to the activities of 'outside' steamer concerns to which reference has already been made.

C. HANDLING AND TRANSPORTATION COSTS

274. The expenses incurred on the movement of jute from villages to Calcutta fall under two categories, namely handling and transportation. The average costs on account of the actual handling operations are comparatively small, being about Re. 0-1-9 per md.—0-0-3 at villages and 0-1-6 at baling centres. The standing charges of *kutch* balers, both upcountry and in Calcutta, however, form an important part of the ultimate cost of jute, and amount to approximately Re. 0-6-0 per md. in the case of European balers and 0-4-0 for Indians. Thus their total handling expenses are Re. 0-7-6 and Re. 0-5-6 per md. respectively which are more or less uniform for all the secondary markets. The total expenses involved in the movement of jute, therefore, vary according to the cost of transportation which again depends on whether land, water or combined transport is employed. Assuming that jute is carried a distance of 10 miles from villages to secondary markets, the expenses on account of transport in the rural areas amount to Re. 0-2-6 per md. by carts and Re. 0-1-9 per md. by boat. Similarly, the freight rates from the *mofussil* markets to Calcutta vary according to the type of transport service employed. For example, if goods are despatched from Dacca, the freight for the all-steamer route will be Re. 0-6-10 per md. and the total expense on account of transportation would amount to Re. 0-8-7 per md. If, however, some fibre were to be despatched by combined service, *via* Jagannathganj and Serajganj, the freight alone would amount to Re. 0-11-1 and the total transport expenses to Re. 0-12-10 per md.

275. The total expenses incurred on the movement of jute from the village to the important baling centres of representative districts and thence to the Calcutta mills, presses or markets are shown in the following table.

TABLE LI.
Expenses Incurred by Buyers on the Movement of Jute
(from villages to Calcutta via secondary markets)
 (per maund)

Name of market	Handling expenses			Transportation costs			Total expenses	Less cash value of market allowances †	Net expenses
	At villages **	At baling centres	Standing charges of <i>kulcha</i> balers †	From villages to secondary markets (10 miles)		Calculated freight to Calcutta (baled jute)			
				Cart	Boat				
	R. a. p.	R. a. p.	R. a. p.	R. a. p.	R. a. p.	R. a. p.	R. a. p.	R. a. p.	R. a. p.
Iswarganj	0 0 3	0 1 3	0 6 0	0 2 6	...	0 11 4	1 5 4	0 3 0	1 2 4
Netrakona	0 0 3	0 1 9	0 6 0	...	0 1 9	0 9 1	1 2 10	0 0 10	1 2 0
Narsingdi	0 0 3	0 1 9	0 6 0	...	0 1 9	0 7 0	1 0 9	0 1 10	0 14 11
Tarpassa	0 0 3	0 1 1	0 6 0	...	0 1 9	0 5 9	0 14 10	0 2 3	0 12 7
Gaibandha	0 0 3	0 1 3	0 6 0	0 2 6	...	0 9 2	1 3 2	0 1 1	1 2 1
Jalpaiguri	0 0 3	0 1 3	0 6 0	0 2 6	...	0 11 10	1 5 10	0 4 0	1 1 10
Charmugaria	0 0 3	0 1 6	0 6 0	...	0 1 9	0 5 6	0 15 0	0 2 0	0 13 0
Magura	0 0 3	0 1 3	0 4 0	0 2 6	...	0 7 7	0 15 7	0 4 9	0 10 10
Gulab Bagh	0 0 3	0 1 6	0 4 0	0 2 6	...	0 9 4	1 1 6	0 2 3	0 15 3
Haibergaon	0 0 3	0 1 3	0 6 0	0 2 6	...	1 0 10	1 10 10	0 0 1½	1 10 8½

** Expenses at *hats* have not been included as about 60 per cent. of jute goes direct from villages to secondary markets.

† This item includes standing charges both upcountry and in Calcutta and, unless otherwise specified, refer to European balers only.

‡ Described in Ch. III, Section E, supra, and calculated on the basis of Rs. 5-0-0 per md. being the average price of jute upcountry in 1937-38.

§ These refer to Indian balers.

The items included in the above table comprise all the expenses incurred by *kutchu* balers. In addition, their receipts in the form of market allowances have also been taken into account. Thus, the net expenses on the movement of jute would be the cost of handling and transportation minus all gains through market charges and allowances. These are the highest, Rs. 1-10-8½ per md., in the case of jute despatched from Haibergaon (Assam) and lowest, Rs. 0-10-10 per md., on consignments from Magura (Jessore).

CHAPTER V

CLASSIFICATION, GRADING AND STANDARDIZATION

(NOTE ON TECHNICAL TERMS)

276. In this chapter, it has been necessary to employ certain technical terms, which will not be readily intelligible to a lay reader. Explanation of such terms are, therefore, given below.

Species: The various species of jute of which *Corchorus capsularis* (white jute) and *Corchorus olitorius* (tossa and 'daisee' jute) are the only two of any commercial importance.

Quality: This term is used by the trade to give a broad indication of the spinning quality of the fibre.

Grade: This term indicates jute assorted according to commercial standards based on the factors of strength, colour, length and percentage weight of roots.

Standard: Specification defining characteristics of the fibre of a particular grade which are fixed, for loose jute, by the joint committee of the Indian Jute Mills Association and the Calcutta Jute Dealers Association.

Marks: Distinctive trade symbols—designs or combination of letters—employed by balers both for *kutch*a and *pucca* bales, and usually printed on small squares of hessian affixed to each bale.

Condition: A general term referring to such characteristics of the fibre as are influenced by the manner in which jute has been cultivated and prepared for the market.

Spinning quality: This term refers to the suitability of fibre for the production of various types of yarn.

Grade outturn: The yield of each grade of fibre obtained after assorting.

Colour: The colour of jute, which varies considerably throughout the growing areas, depends to a great extent on the type of water used for retting and the care taken in the process.

Low colour: This term is applied to drab brown or dark gray colour which is due to the retting of plants in dirty or brackish water.

High colour: This means good colour resulting from retting in clean water.

Morah: A lightly twisted bundle of four to seven seers of fibre. After assorting, jute is made up into *morahs* prior to baling.

A. GENERAL

277. As far as quality is concerned, jute is judged by its suitability for the production of numerous types of yarn and its behaviour in the manufacturing process. The quality, however, is not uniform and such factors as length, strength, colour, etc., vary from place to place according to the nature of soil, weather conditions, type of water used for retting and the care exercised in subsequent processes.¹ This lack of uniformity in quality has led to the classification and grading of jute with a view to facilitate its marketing. The various classes of jute and its grades are shown in the following table.

TABLE LII
Different Classes and Grades of Jute.

Species	Quality	Hard or Soft fibre	Grades
Corchorus capsularis—White	Jat	Hard	Top. Middle and Bottom.
	District	{ Hard Soft	" "
	North Bengal	Soft	" "
	Western (Bihar)	Soft	" "
	Dowrah	Hard	" "
	Jungli	Hard	" "
	Assam	{ Hard Soft	" "
Orissa	Soft	" "	
Corchorus olitorius—	Jat	Hard	" "
	District	{ Hard Soft	" "
	North Bengal	Soft	" "
	Western (Bihar)	Soft	" "
	Orissa	Soft	" "
Daisee	Jat Daisee	Soft	" "
	District	Soft	" "

278. The mills in India are the biggest consumers of jute in the world,² and they exercise, through the Indian Jute Mills Association, considerable influence over the country's jute trade.

¹ See Ch. II, Sec. B, supra.

² See Ch. X, Sec. A 2, infra.

The classes and grades shown in the table are adopted by the mills for their purchases, and even *pucca* balers obtain the greater proportion of their supplies on the same bases. Foreign consumers also indicate their requirements in terms of class and grade which are, however, different from the above and will be discussed in the second Marketing Report. For the general requirements of mills in India, the purchases of raw jute are based on the qualities considered most suitable for spinning into the weights of yarn required for the more commonly used types of hessian cloth and sacking bags which form the bulk of their manufactures. When contemplating the purchase of raw fibre, mills give careful consideration to points such as—

- (a) the quantities of white and tossa jute required,
- (b) the requirements of hard or soft fibre, and
- (c) the possible yarn yield of the different standards or grades of each.

B. CLASSIFICATION

1. QUALITY CHARACTERISTICS.

279. There are two botanical varieties of jute, *Corchorus capsularis* and *Corchorus olitorius*, commonly called 'white jute' and 'tossa jute' respectively. The *Olitorius* variety grown in the neighbourhood of Calcutta¹ is called *daisee*, and is regarded by the trade as a separate variety owing to special features which it possesses. Certain characteristics of length, strength, colour, lustre, etc., are peculiar to fibres from the different jute growing areas and form the basis of classification. Many of these classes have distinctive local names, but for commercial purposes they are known in accordance with their places of origin as detailed in the preceding table. The characteristics of the various classes of jute and the areas where each is grown are described below.

280. (a) *White jute (Corchorus capsularis)*.²

- (i) *Jat*—of the eight distinctive classes or qualities within the *Capsularis* variety, *jat* is the finest. It is generally regarded as *hard jute* because of its firm, even and well defined fibre strands and

¹ 24 Parganas, Howrah, Hooghly and lower Jessore, Khulna and Nadia.

² The fibre grown in the United Provinces is of good length, up to 12 feet, but is dirty, barky, specky with many runners and heavily rooted, which all tend to detract from its value. The fibre is fit only for coarse and heavy yarn of low grade.

strength. It is grown in the districts of Mymensingh and Dacca and in upper Tippera.

- (ii) *District*—The word *district* is purely a trade expression, and has no connection with the administrative areas of the Government. The *district* fibre does not have the firm texture of *jot* and is inclined to be specky and heavily rooted. This class of fibre can be *soft* or *hard*, and is produced in the Eastern Bengal districts, viz. lower Tippera, Noakhali, parts of Dacca, Mymensingh, Faridpur and Bakarganj.
- (iii) *Northern*—The fibre from those districts of Bengal¹ which are situated to the north of the Ganges and west of the Jamuna rivers is regarded as *soft* quality jute inclined to break easily in spinning. The fibre is fluffy and hairy and, in several areas, is fairly heavily rooted.
- (iv) *Western (or Bihar)*—Purnea, the only jute growing district of note in the province of Bihar, produces the lowest type of *soft* fibre which is generally weak and insufficiently cleaned.
- (v) *Assam*—The *Capsularis* variety predominates in Assam, only about 5 per cent. of the total area being devoted to the cultivation of *Olitorius*. Although the bulk of Assam jute is classified by mills as *soft*, a fair amount of the fibre is of the *hard* variety. There are great variations in the quality of fibre even in the same district. For example, fair quantities of excellent fibre are produced in Nowgong and Sylhet and on the northern bank of the Brahmaputra in Goalpara district. But, it is in these very areas that faulty methods of preparation result in the production of considerable quantity of low grade jute. The white jute varies from well conditioned fibre, eleven or twelve feet in length, to dark coloured specky, dirty and heavily rooted jute only five to six feet long.
- (vi) *Orissa*—In Orissa, jute is grown under poor conditions, therefore fibre from this province compares

¹ Rangpur, Jalpaiguri, Dinajpur, Mālda, Rajshahi, Bogra and other districts.

unfavourably with finer quality produced by Bengal. Generally speaking, it is shorter, is more specky and rooted and is of inferior colour. However, when cleaned properly, it is smooth and soft and has useful spinning properties.

(vii) *Dowrah (or Pubal)*—This hard to medium fibre, produced in the lower reaches of the south Bengal ✓ districts of Bakarganj and Faridpur, is one of the poorest qualities grown in Bengal. The rivers of this area, affected by the salt water of the Bay of Bengal, are brackish and definitely unfavourable for the production of good quality fibre. This jute is harsh and hairy with very heavy roots and is, moreover, short and poorly conditioned.

(viii) *Junghli*—This quality is produced in north-west ✓ Bengal, i.e. Murshidabad and parts of Malda districts. The fibre is of inferior colour, soft, sticky, weak, hairy and heavily rooted.

281. (b) *Tossa jute (Corchorus olitorius)*—There, is a keen overseas demand for this class of jute principally from the United Kingdom and America where it is used in special fabrics not commonly manufactured in India. According to the trade, its spinning properties are superior to those of white jute. This variety is divided into six different classes.

(i) *Jat*—This is the finest quality of tossa jute. Its distinguishing characteristics are clean straight fibre, golden brown to slatey brown in colour and with a fine lustre. cream coloured *jat tossa* is scarce and commands a high premium. It is hard jute of medium strength. The areas in which it is grown are those in which *jat Capsularis* is also produced, i.e. ✓ Mymensingh, ✓ Dacca and upper ✓ Tippera where it is cultivated solely on high lands.

(ii) *District*—It is produced in the most characteristic form in Faridpur district, its main distinctive features being the brownish red or golden yellow colour and a harsh feel. In the adjoining western and southern districts of Nadia, Khulna and Jessore, the fibre, though softer and more pliable, is more hairy and comparatively weak and the reddish colour is not so prominent,

- (iii) *Northern* is mainly grown in Rajshahi, parts of Murshidabad, Pabna and Bogra districts. The colour of fibre is not so red as that of East Bengal. Moreover, it does not possess the same lustre as the *jat* quality, and being weak it is generally classified by the mills as *soft*.
- (iv) *Western (or Bihar)*—The tossa jute of this area is *soft*, hairy and weak. Generally speaking, it does not come up to the standard of quality associated with the fibre grown in Bengal, nor is the customary red tinge of tossa jute so pronounced in this fibre.
- (v) *Orissa*—Only a small percentage of the jute growing area of Orissa is given over to tossa cultivation. It is usually shorter than Bengal tossa, and contains much *shamla*, i.e. gray fibre. Though sticky and not well cleaned, it has a fair lustre, which may be due to its natural oil content.
- (vi) *Jungli*—This tossa jute is grown in Murshidabad and Malda district and, as its name implies, is inferior to the fibre produced in other areas, being weaker and more hairy with a fairly high proportion of roots.

282. (c) *Daisee jute (Corchorus olitorius)*—As already mentioned, *daisee* jute is of great importance in the export trade and most of it is consumed by foreign countries. There are two classes of this jute, viz. *jat* and *district*.

- (i) *Jat*—The individual fibre strands are of extreme fineness, and their greater flexibility permits of a higher degree of twist which is conducive to the spinning of finer counts. It is usually gray in colour, has fair length and is supple and lustrous. It is grown in Howrah, Hooghly, Burdwan and Midnapore districts.
- (ii) *District*—This class of *daisee* jute is grown in 24 Parganas and lower Nadia, Jessore and Khulna, and closely resembles the Northern tossa described above. It is of fair length, and varies in colour from reddish brown to dark gray, depending upon the type of water in which it is retted. It is not generally so flexible as *jat daisee* quality and, the

dark gray (*shamla*) fibre is very *soft* and gives considerable wastage in processing.

2. QUALITY FACTORS.

283. Generally speaking, the main factors which constitute quality of jute are strength, fineness, colour and uniformity of colour, lustre, length, proportion of roots and cleanliness of fibre (i.e. freedom from specks, sticks and bark). Much of the fibre produced, however, falls short of what may be termed 'good spinning quality,' which depends, in the main, on the general condition of fibre and natural moisture. It is essential for the production of good quality fibre that reasonable care be taken throughout the cultivation and preparation periods. Insufficient weeding and thinning during the early stages of growth result in thin and weak plants of irregular length. Again, careless handling in retting, stripping and washing lessens considerably the value of the fibre to consumers, which results in its being classified as low quality jute.

284. A large percentage of the jute suffers from the effects of unsatisfactory growing conditions and faulty methods of preparation, and the trade has coined its own set of terms to describe the various factors which lower the general standard of quality. They are as follows.

Rooty.—Jute carrying heavy roots caused by leaving the plants standing in the fields after floods have receded.

Croppy.—Fibre with the top ends rough and hard caused by careless steeping.

Specky.—Patches of outer bark adhering to the fibre, caused by uneven retting and insufficient washing.

Knotty.—Knots in the fibre, or portions of fibre sticking together, due to insect bites or punctures in the growing plants.

Sticky.—Fibre containing broken pieces of stick and pith often caused by the plants being too small to clean properly.

Dazed.—Dull, lifeless fibre of inferior strength and poor spinning quality resulting from over-retting; may also be caused by storing jute while it is moist.

Runners.—Strips of outer bark adhering to the fibre as a result of uneven steeping and careless stripping and washing.

Hunka.—Jute fibre from which the hard bark and dried bast of the plant has not been removed.

The presence of even one or two defects lowers the value of the fibre. It is possible for the growers to eliminate them by the

exercise of more care during the important processes of retting, stripping and washing. It is the considered opinion of the trade that, lately, the quality of jute has deteriorated, and they attribute it to the comparatively low prices which have ruled during the period 1930-31 to 1937-38. This may be true to a great extent because high prices provide a margin and an incentive to growers for employing skilled labour. During periods of low prices, growers generally rely more on the help of the members of their family. Also, the improvement in machinery and methods of manufacture have increased the demand for lower qualities to such an extent that good qualities have sometimes been a glut on the market and at times almost unsaleable.

285. Besides the reasons given above, the quality of jute is also affected by adverse weather conditions, *e.g.* excessive rainfall and the consequent heavy flooding of jute fields. For instance, in 1938, abnormal rains, at the time when plants were young and weak, caused widespread inundation of jute areas, thereby retarding the growth of the seedlings and damaging the standing plants. The general effect was that much of the fibre produced was weak, full of bark, heavily rooted and of poor colour. According to a number of reliable balers, the overhead grade outturn in that season was 15 to 20 per cent. lower than that of the preceding year's crop. This was, however, exceptional and, all things considered, much of the blame for poor quality lies with growers.

286. There is yet another factor which affects the quality of jute, namely, the moisture contained in the fibre. Jute, like other textile fibres—*e.g.* cotton, wool, etc.—has the capacity of absorbing moisture from the air. The moisture thus absorbed is called 'hygroscopic' or natural moisture, and as it is contained in the body of the fibre, it cannot be detected by touch of hand. The amount of natural moisture at a particular temperature varies according to the percentage of humidity in the air. It is reported that the *hard* fibres of East Bengal do not absorb moisture to the same extent as the *soft* tossa and northern fibres. Again, *daisce* jute is considered to contain a higher percentage of normal moisture than the other qualities.

287. According to a stipulation in the mills' loose jute contracts, the maximum allowance for natural moisture is 12 per cent. for new jute shipped between the months of July, August and September, and 10 per cent. for the rest of the season. A series of experiments conducted from time to time in some of

the European countries and in America and India have established that the hygroscopic moisture in jute is about 17 per cent. at humidity ranging between 75 and 85 per cent. It may be less in a drier atmosphere.¹ On the other hand, the amount of moisture absorbed by fibre may increase to a maximum saturation value of 30 per cent.,² though 21.5 per cent. is considered the safety limit against micro organic attacks.³ "Free moisture," as distinct from hygroscopic moisture, is "deposited as water in liquid form after saturation has been exceeded, and in general is found on the *outside* of the absorbent material."⁴ While hygroscopic moisture depends on humidity and temperature, free moisture is the result of malpractices—discussed at a later stage.

3. VARIATIONS OF QUALITIES.

288. In view of the number of districts in which jute is grown and owing to the different weather conditions, methods of cultivation and the types of water in which retting, stripping and washing operations are carried out, it is not possible to expect uniformity in the quality of jute grown in the various provinces of India. The purchases of consumers are based on certain characteristics of quality associated with the fibres of particular areas or districts, which they know by experience. For a number of years, some consumers complained that the distinctive qualities peculiar to the higher classes of jute had tended to disappear owing to the propagation of seeds with a high fibre yield by the Department of Agriculture, Bengal.⁵ This matter was discussed between the representatives of the trade and the Department at a meeting held in Calcutta on 16th February, 1923. The latter agreed to undertake experiments and tests to find out whether the strain complained of was responsible for the alleged deterioration in fibre. This was done and the statistical examination of assessments showed conclusively that there was no difference in the qualities of the new and old strains.⁶ Another reason why the consumers cannot now identify better classes of jute with their known characteristics may be found in the adulteration of qualities by *beparies* and *kutchas* balers, which has become a permanent

¹ *Vide* Moisture Relationship of Jute, by S. G. Barker (1939), p. 62.

² *Ibid* p. 3.

³ *Ibid* p. 61.

⁴ *Ibid* p. 26.

⁵ See Ch. IX, Sec. D 2, *infra*.

⁶ *Vide* The Indian Jute Mills Association Report, 1923 and 1925.

feature of the jute trade upcountry. This malpractice is indulged in through motives of profit, and will be discussed at a later stage.¹

C. GRADING

289. Manufacturers are accustomed to judge jute fibre by its spinning qualities which depend principally on its variety and the district in which it is grown. In order to establish a suitable basis for commercial grading, apart from these criteria which must be considered to be too general for accuracy, the factors of strength, good colour and the percentage weight of roots are employed. These then decide the trade grades into which all jute falls. Thus, buyers in the consuming centres indicate their requirements in terms of grades in addition to variety and class. The Marketing Enquiry has established that jute is marketed upcountry in an unassorted condition, and that grading is done for the first time by *kutchā* balers. This has resulted in the introduction of different methods of judging the quality of jute by individual buyers in the *mofussil*,² and has given rise to confusion and the possibility of underestimation.

1. PRESENT PRACTICES.

290. (a) *Growers*—Whether the growers sell their jute in villages, *hats* or secondary markets, the fibre changes hands in a completely unassorted condition. The growers have little or no idea of the principles underlying grading and may, therefore, lose heavily by deliberate underestimation of the quality of their fibre by the buyers. If a cultivator had some knowledge of jute grading, and if he were supplied from time to time with the prices prevailing in the Calcutta market for each grade, there seems little doubt that he would be encouraged to exercise more care in the preparation of his jute and so obtain a higher yield of better fibre. It would also tend towards uniformity of conditioning, which would reduce to a large extent the quantity of poorly handled fibre that comes on the market.

291. (b) *Beparis*—These middlemen seldom make any attempt to grade their purchases and the vast bulk of fibre collected by them reaches the markets for disposal to balers in the form in which it was originally sold by growers. Through continual contact with balers, however, the intermediaries get

¹ See Ch. V, Sec. C 3 (b), *infra*.

² *Vide* Ch. III, Sec. C 3 (c), *supra*. Also Sec. C 4 of this chapter.

an opportunity of studying the quality requirements of the various grades, and become adept at judging the possible outturn of the unassorted lots offered by growers.

292. (c) *Aratdars*—They handle a considerable quantity of jute each season, and it was found that, though normally the bulk is passed to balers in its original unassorted state, in some cases it is actually graded by *aratdars*. In the *daisee* districts, they assort their purchases according to colour and length only, and do not usually take into consideration such factors as strength, root or cleanliness of fibre. Again, in a few markets, for example, Serajganj and Bera (Pabna district), *aratdars* appeared to assort fibre according to the accepted trade standards. It was reported, however, that their assortment was indifferent, and that the higher grades contained large proportions of inferior quality fibre. This type of grading is of no value to a baler who has again to assort the fibre in order to maintain a uniform standard of packing. It may be concluded, therefore, that though the intermediaries possess a certain amount of knowledge as to what constitutes the various grades, they make little or no effort to assort their loose jute purchases.

293. (d) *Kutchā balers*—Some important balers have established buying stations or sub-agencies at many secondary markets as well as in the larger primary markets. The assistants in charge generally receive previous training at one of the main baling stations, and so are acquainted with the standards or guarantees of quality required for each grade. They work under the direction of their principals and purchase jute at the prices indicated by the latter. Having completed his purchases, the assistant—sometimes called ‘agent’—makes up the lots into *bojhas* and advises his controlling office of the quantities bought and his estimate of grade outturn. The lots are then sent to the baling station. In a few cases, however, it was reported that the outstation agent assorted the fibre into the recognized grades before despatching it to his baler. This is the first actual grading into recognized standards that is carried out in the *mofussil*.

294. With the exception of such outstation purchases, jute landed for sale to *kutchā* balers at their premises is in an unassorted condition. It is at this stage that practically all the fibre sold to mills in India and to export balers is graded and packed according to the accepted trade standards, which are discussed

later in this chapter.¹ The system of grading jute is similar in all presses, and is described below. The actual standards of quality do not alter, but owing to different circumstances the names of the grades have sometimes been changed. For example, in 1935, they were 3's, 4's, R's; in 1936, 4's, R's, T. J.; and in 1938, they were changed to Top, Middle and Bottom which still continue in force. The *jachandar* (selector) knows through experience the class of fibre required to make up each grade. Various lots of unassorted fibre are brought to him in the selecting sheds. These are assorted into grades, the *jachandar* making piles of each around him. From the piles, he extracts sufficient fibre to make into *morahs* and finally into *bojahs* for baling. According to the standards now prevalent, long clean jute of good colour and light root is graded as 'Top,' sound fibre of good colour with medium root falls into 'Middle' grade, while all jute not fit for inclusion in the above is graded as 'Bottom'.²

2. STANDARDS OF PACKING.

295. Up to the commencement of the 1939-40 season, it was customary for mills to buy jute according to three standards of packing—namely European, European supervised and Indian. European packing commanded varying premia over the other two. At the beginning of that season, however, members of the Bengal Jute Dealers Association agreed among themselves not to pack supervised marks, and made sales to mills on the understanding that the jute contracted for was to be packed to European standard. For this they were reported to have secured a premium of 2 to 4 annas above Indian standard packing. The matter was referred to the Indian Jute Mills Association by one of the smaller loose jute trade associations. After considering the matter fully, it was decided that only one standard could be recognized and that all packing must conform to the guarantees of quality for each grade as set at the commencement of the season, with the result that the European supervised packing was discontinued. Now, the Indian balers pack to the declared standards, and the European balers, while fully observing the quality requirements for each grade, pack according to their own private standards and

¹ See Sec. D, *infra*.

² For full description, see Sec. D 2 of this chapter.

usually receive a premium of 4 annas per maund or even more.¹

3. MALPRACTICES.

Malpractices, are not of infrequent occurrence in the jute trade. The more common of these are the watering of jute and the adulteration of qualities.

296. (a) *Watering of Jute*—Jute is damped with water for the purpose of increasing the weight of the fibre, and this practice provides dishonest dealers with a source of easy profit. In many instances, buyers have encouraged this practice by offering to buy wet jute at a discount. The practice may also be due to the adoption of the rough and ready method of estimating excess moisture by handling. According to the evidence of a number of reliable merchants, it is not possible to detect excess moisture up to the extent of 5 per cent., i.e. 2 seers per maund. Even when it is much higher, the amount of excess moisture remains a matter for conjecture, and settlement of claims is effected by mutual agreement between buyer and seller. Tests for moisture are sometimes carried out by weighing a quantity of jute, exposing it to the sun until it is dry, and then setting it aside in a shady place to recover its natural moisture. It is again weighed and the difference in weighing is assumed to be the excess moisture present. This too is an unsatisfactory method because, according to Dr. S. G. Barker "the sun-drying of jute is definitely deleterious to its manufacturing properties and, as a method for securing the value of its initial moisture content it is not only an erroneous procedure but acts to the detriment of the purchaser."² The buyers aver that in the majority of cases, their estimation falls short of the actual amount of excess moisture. If this view is accepted, the under-estimation of excess moisture may be to a great extent responsible for the widespread prevalence of this malpractice.

297. The question of excess moisture was closely investigated during the Marketing Enquiry in order to trace the evil to its source, and it is regrettable to note that hardly any type of dealer upcountry can be absolved of responsibility in this matter. The growers are the exception; according to *beparis* and *kutchabalers*, they do not usually offer watered jute for sale. Moreover, *beparis* do not, generally buy semi dry jute from the

¹ After the outbreak of war in Europe, the prices of jute went up sharply, and the premium on European packing also increased.

Moisture Relationship of Jute, op. cit, p. 86.

growers; and, if they do, they pay a much lower price than is warranted by the amount of excess moisture. The peripatetic dealers—*farias* and *beparis*—may, therefore, be regarded as primarily responsible for excess moisture, but only a few of them admitted watering their village purchases. At several places, *beparis* were observed actually spraying water over their jute, while a common practice reported was the exposure of fibre to the elements at night. Again, in some cases, the fibre in *beparis*' boats was found to be insufficiently protected from rain. *Aratdars* are equally responsible for this undesirable practice, so much so that in some markets where they operate the watering of jute is considered a normal procedure. It was reported that the arrivals in such markets were treated with water till the fibre was damp to the touch. In this connection, particular mention may be made of Bera (Pabna district) where European balers found it impossible to work owing to wet jute. Bhangoora (Pabna), Baira and Narsingdi (Dacca), Madaripur (Faridpur) and Kishanganj (Purnea) are a few of the large number of markets where the percentage of excess moisture is particularly high. *Kutchas* balers usually blamed *beparis* and *aratdars*. Having their commitments to meet, they argued, they had no alternative but to buy wet jute, and that they could not afford to ignore it. These balers pointed out that they made genuine efforts to dry the fibre. Nonetheless, it is indisputable that large quantities of wet jute reach the mills and balers, with the result that the buyers' claims for excess moisture are frequent. At present, the latter accept wet jute and take an allowance against it. It is interesting to note, however, that there are many markets which may be termed 'dry' owing to the fact that the local merchants refuse to buy wet jute. It transpired, during the Enquiry, that, in the past, whenever the merchants in any market decided not to buy wet jute, the malpractice automatically stopped, but all such resolutions are quickly forgotten in a rising market.

298. Having regard to the part played by peripatetic dealers, *aratdars* and *kutchas* balers in the watering of jute, it is not surprising that the malpractice has assumed alarming proportions. The mills and exporters have made serious protests from time to time, but the watering of jute continues. As far back as 1906, the matter was considered to be so serious that several influential members of the manufacturing and baling sections of the trade

prepared a Bill for the purpose of making this practice a legal offence. It was called "The Adulteration of Jute Act," but the draft was never presented to the Government as all sections of the industry could not agree to all the provisions set out in the Bill. Since then no attempt has been made to legislate in this matter. It has been realized all along that to a large extent this particular malpractice can be eliminated by the concerted action of the buyers in Calcutta, i.e. mills and export balers. Sufficiently stringent measures imposed by them could and would have the effect of making *kutchā* balers combine in refusing to accept wet jute from *farias*, *beparis* or *aratdars*. This is a matter of great importance to all sections of the trade and should be given the urgent consideration it deserves.

299. (b) *Adulteration of qualities*—During the last decade, a steadily increasing trade has been carried on by *beparis* and *kutchā* balers who purchase jute in districts where qualities are low, and sell it at the Bengal *jat* centres as local fibre, thereby obtaining a higher price. The mixing of this low class fibre with *jat* results in a lowering of the *jat* standard. This adulteration of quality has now reached serious proportions, and in numerous cases buyers in Calcutta complain that they cannot trace in the fibre delivered to them the known characteristics of the quality or class of jute which they had contracted and paid for. The low prices which have prevailed for loose jute during the last decade have probably stimulated the tendency towards the adulteration of qualities. This practice has also been encouraged by the heavy demand for *jat* jute. It was established during the recent Enquiry, that the prices in the more remote areas of North Bengal and Assam, even after allowing for the quality difference, were lower than those in East Bengal, and that after meeting the transport expenses the inferior fibre could be landed at *jat* centres with considerable profit to the dealers.

300. An illustration of the wide-spread nature of this practice is given below, showing the various qualities packed and shipped from Sarisabari, the largest baling centre in the district of Mymensingh, where a few years ago, the quality was estimated by the trade as 80 per cent. *jat* and 20 per cent. *good district*. In 1937-38, the total quantity of jute shipped from this market was about 2,100,000 mds. and on the basis of the classification of qualities by mills, it was all regarded as *jat* and *good district*. Actually according to the Enquiry, only 800,000 mds., i.e. 38

per cent. of the fibre was produced in Mymensingh and the rest was imported from districts which come under a lower trade classification. The details are as follows.

TABLE LIII
Arrivals of Jute at Sarisabari (1937-38).

District of origin	Calcutta trade classification	Price difference (per md.)	Quantity (md.)
Mymensingh	80% <i>Jat</i> }	...	800,000
Bogra	20 " <i>District</i> } <i>North Bengal</i> }	4 to 6 annas. } below <i>jat</i> }	400,000
Rangpur	"	"	350,000
Pabna	"	"	150,000
Assam	<i>Assam</i>	6 to 8 annas. } below <i>jat</i> }	400,000
Total arrivals and despatches			2,100,000

It has been stated already that price considerations are paramount in this type of business. Proof of this is given in the table below which shows the prices at which average quality unassorted fibre was sold at representative villages in the above districts and at Sarisabari, taking into account the time normally spent in transporting fibre between the points mentioned.

TABLE LIV

District	Dates (week ending)	Village prices		Price at Sarisabari	
		R.	a. p.	R.	a. p.
Mymensingh	{ 3.12.38	5	7 0	5	14 0
	{ 7. 1.39	5	14 0	6	10 0
Bogra	{ 3.12.38	4	11 6	5	14 0
	{ 7. 1.39	5	8 0	6	10 0
Rangpur	{ 3.12.38	4	8 0	5	14 0
	{ 7. 1.39	5	2 9	6	10 0
Pabna	{ 3.12.38	5	0 6	5	14 0
	{ 7. 1.39	5	6 0	6	10 0
Assam (Nowgong)	{ 3.12.38	4	1 0	5	14 0
	{ 7. 1.39	3	10 0	6	10 0

NOTE—All prices are calculated at 80 tolas per seer.

Source—Marketing Enquiry.

301. In addition to the above, a common practice of the *kutch*a balers, operating in markets situated on the main river routes in upper Assam Valley, is to pack their jute with tabs bearing the names of well known *jat* centres. These bales are

then despatched, by flats or country boats, to the steamer stations serving the centres marked thereon, and are eventually delivered to mills and presses in Calcutta as the product of high quality areas of Bengal. The extent of this type of trading may be illustrated by a study of the shipments from Dhubri, an important baling centre in Assam. In 1937-38, although the total despatches by railway and steamer approximated to 625,000 mds., according to trade information, the direct shipments to Calcutta by various transporting agencies amounted to 193,000 mds., i.e. 30 per cent., only.

Despatches of Jute from Dhubri (1937-38).

By railway	...	...	...	83,000 mds.
„ steamer—flat	...	...	...	110,000 „
Total				193,000 mds.

The balance of 432,000 mds., about 70 per cent. of the total, was despatched to various markets of Bengal in the following manner.

1. *Kutchha baled jute.*

(a)	By flat from Dhubri to steamer stations in Bengal for re-booking to Calcutta	...	...	227,000 mds.
(b)	By country boat to baling centres and steamer stations in Bengal for despatch under fresh Bill of Lading to Calcutta as Bengal jute	...	...	130,000 „

2. *Loose jute.*

	By country boat from Dhubri to Bengal centres for inclusion into Bengal packing	75,000 „
--	---	-----	-----	----------

Total ... 432,000 mds.

302. It should be pointed out, however, that the producers do not receive any benefit from this type of trading, while the consumers are cheated by having delivered to them fibre which was not grown in the areas from which they contracted to buy. Although mills and exporters claim in numerous cases against the qualities delivered, a large percentage of this fibre is accepted by them as the product of the area marked on the bales. This raises the question whether the classification of quality by

the trade is as sound as it is generally considered to be. Undoubtedly, the East Bengal *jat* is cleaner and better than that generally produced in North and West Bengal and Assam, but there is no scientific data to show the comparative spinning or manufacturing values of these two classes. The Technological Research Laboratories of the Indian Central Jute Committee are investigating this matter, and the results obtained should help in establishing the relative manufacturing value of each class of fibre and lead to the standardization of price differences.

4. METHODS OF SALE.

303. (a) *Upcountry*—In view of the fact that jute is marketed upcountry in an unassorted condition, various methods have been evolved for judging the quality of fibre offered for sale. Growers make up their jute into bundles of customary sizes, irrespective of the colour, length, strength and cleanliness of the fibre, and it is seldom that the intermediaries make any attempt to rearrange the bundles. Thus, buyers at the different marketing points are set the task of assessing the quality of jute according to its grade outturn. The methods adopted for the purpose are

- (i) estimation by inspection, and
- (ii) assortment.

(i) *Estimation*—This is by far the most common method, and prevails in villages, *hats* and in most of the secondary markets. The buyer, whose basic price is the last known quotation for either the average quality of the district, generally termed *garsat*, or for 'Middle' or 'Bottom'—whichever be the basis of quotation in the baling centre—inspects the ungraded lots offered him, and places a value on them calculated on his estimation of the possible yield of the respective commercial grades. Thus, though buying at a price based on fair average quality or the grade outturn, the lots actually change hands at their individual face value.

(ii) *Assortment*—This system is adopted by some baling establishments in important upcountry markets and also when the estimation of quality by inspection does not satisfy the sellers. The bundles offered for sale are assorted by the *jachandars* (selectors) of the buyers and the total value of each lot is then calculated on the basis of the prices ruling for each grade. This practice has given rise, in a very limited manner, to trading on specification. Under this system, *beparis* or broker-dealers

contract with balers to supply fibre in graded form. These dealers generally have a close business connection with the baling firms, and in most cases deal exclusively with them. They undertake to supply jute, having a specified grade outturn, within a given period, at a price mutually agreed upon. At the time of delivery, the fibre is assorted in the balers' premises and payment made accordingly. This type of trading accounts for only a small fraction of the total production of jute.

304. (b) *Calcutta*—Out of the total imports into Calcutta, amounting to about 87 per cent. of the marketable surplus of jute, approximately 68 per cent. is sold direct to mills and *pucca* balers, while the balance 19 per cent. is disposed of at the various loose jute markets.¹ The methods adopted for sales to mills and balers are described below.

(i) *Mills' contracts*—The bulk of the purchases made by mills are from dealers or brokers. The contract under which these purchases are made has been approved by the Indian Jute Mills Association which controls 96 per cent. of the total loomage in India.² The contract contains various clauses pertaining to the qualities, grades and marks to be supplied, the method of transport to be used, moisture allowances and procedure in respect of claims for short weight and arbitration in case of disputes and claims for quality, moisture, etc. The rules of the Tribunal of Arbitration of the Bengal Chamber of Commerce are also printed on the contract form.³

(ii) *Pucca balers, contracts*—Balers purchase a very large proportion of their requirements on terms similar to those adopted by mills. In the majority of cases, they stipulate that the quality must conform to the standards of grades fixed for loose jute by the Indian Jute Mills Association and the Calcutta Jute Dealers Association, therefore the same form of contract is used. Their purchases in the loose jute markets, however, are for 'spot' delivery, the price being settled after inspection. Subsequently, the buyers remove the fibre to their premises. In the case of Shambazar and Hatkhola markets, sellers cease to have any responsibility once the delivery of jute has been taken by the buyers. As regards sales at Cossipore market, the goods are further inspected by the buyer who later sends a 'note of

¹ Cf. Ch. III, Sec. D, *supra*.

² *Vide* Report of the Indian Jute Mills Association for 1938.

³ A specimen copy of the contract form is given at Appendix J.

sale' to the seller giving details of the deductions made on account of quality and moisture.

D. STANDARDIZATION.

1. GENERAL.

305. The standards and marks, under which all trading in loose jute is done, are agreed upon by the Indian Jute Mills Association in consultation with the Calcutta Jute Dealers Association. Officially, the standards, *i.e.* the guarantees of quality, ultimately fixed by these bodies, refer only to purchases made by mills within the membership of the Indian Jute Mills Association, but as they are the only standards in force for the ordinary mill consumption, all the manufacturers in India adopt them for their purchases. The terms used by the trade to describe the various guarantees of quality, and the grades into which they are to be packed, have already been defined. Each *kutch*a baler has a number of distinctive marks by which the various grades he bales may be recognized. It may be pointed out that *daisce* jute is not sold under the mills' classification of standards. It reaches Calcutta in unassorted condition and is purchased almost wholly by export balers, the price being mutually settled between the buyer and seller after inspection.

2. FIXATION OF STANDARDS.

306. It has already been mentioned that the only loose jute standards recognized by the trade in general are those agreed upon jointly by the Committees of the Indian Jute Mills Association and the Calcutta Jute Dealers Association. The following procedure is adopted from time to time, if necessity arises. Prior to the commencement of a jute year, a meeting of the two Committees is held at which the working of the previous season's standards is thoroughly reviewed. The principal point for discussion is the extent to which the guarantees, or standards, originally set were adhered to by *kutch*a balers and whether any alteration is called for. In 1935-36, the standards of loose jute were based on a 'warp yarn' guarantee for each mark packed. These were as follows.

WHITE JUTE

2	33%	Hessian warp ¹
	50 „	Sacking warp
	20 „	Woft and cuttings

¹ The definition of hessian warp to be the subject of mutual arrangement between buyer and seller.

- 3 70% Sacking warp
30,, Weft and cuttings
- 4 40,, Sacking warp
60,, Weft and cuttings
- R No guarantee. 'Hunka' or stick jute to be packed and sold separately.

For 1936-37, the Committees decided that, as the above standards had worked satisfactorily throughout the year, they should be continued. But, during that season, there were a number of departures from the standards originally set. In connection with the sale of 'Rejection' (R's), certain mill groups asked balers to give a guarantee of 'free from habbi-jabbi' i.e. tangled jute, and although to do so was a direct infringement of the agreement, many balers acceded to the request of those mills. In a number of cases, however, the balers themselves were responsible for changing the standards of packing. In order to attract business, they cleaned up their bottom quality, and instituted a lower grade, 'HJ' (habbi-jabbi), under which the jute not fit for inclusion in 'Rejection' was packed. Later in the season, the loose jute standard underwent a further change. Mills refused to accept stick and hunka packed under the 'HJ' mark, which led to the introduction of the 'XHJ' or 'S' to cover the lowest grade fibre.

307. At the meeting held to decide the standards for season 1937-38, the situation arising from the departures from the original standards of 1936-37, received careful consideration. The necessity for setting quality standards which would not be subject to alteration from year to year was fully realized by all sections of the trade, and an attempt was made to arrive at a basis more generally acceptable and more easily capable of being adhered to by balers. It was decided, therefore, to discontinue specifying standards by percentages of warp guaranteed in upper marks, and to introduce instead a guarantee of fibre with specified percentages of cutting. It was, further, agreed upon that the 'R' mark should be standardised as straight 'morahed,' and that tangled jute, stick jute and hunka were to be excluded from it and packed as 'T.J.' and 'S' respectively. Grades for season 1937-38 were ultimately standardized as follows¹.

¹. Report of the Indian Jute Mills Association (1937), p. 67.

WHITE JUTE

- 3 Sound fibre, good colour of the district, cutting not to exceed 25%.
- 4 Sound fibre, cutting not to exceed 35%.
- R Straight morahed, free from hunka and/or stick.
- T.J. (tangled jute) to be packed and sold separately.
- S (stick jute and hunka) to be packed and sold separately.

TOSSA JUTE.

- 3 Sound fibre, good colour of the district, cutting not to exceed 15%.
- 4 Sound fibre, cutting not to exceed 25%.
- R Straight morahed, free from hunka and/or stick.
- T.J. (tangled jute) to be packed and sold separately.
- S (stick and hunka) to be packed and sold separately.

Early in the season, certain mills contracted to buy large quantities of 'Rejections' for deliveries during September and October (1937), that is at a time when only limited amounts of the heavily rooted fibre, generally included in that grade, were available. In order to meet their commitments, balers were forced to deliver fibre superior to that provided for in the contract guarantee. Thus the standard of the grade was raised comparatively early in the season. Pressure on sellers, during the season, resulted in a further departure from the set standards until '3' had disappeared from sales lists and '4' was seldom quoted. Consequently, for general mill purposes, the European packed 'Rejection' became the first or Top grade.

308. The position was reviewed by the Joint Committee at their annual meeting in June 1938, and a decision was taken that a further attempt should be made to continue with the standards set at the beginning of 1937 season. The trade approved and accepted these standards, but from the beginning of the season there was complete confusion as to what qualities constituted the standard to be packed and so, towards the end of July 1938, the matter was referred to the Contracts Sub-Committee of the Indian Jute Mills Association for detailed study. The Association, realized more clearly than ever the necessity for defining standards in a manner that would ensure their permanency. Further, the desire of the Government of India to achieve standardization in the sale of agricultural commodities by legislative means was also

directed towards the jute industry, but action was delayed because of the assurance given by the Indian Jute Mills Association that the trade could decide upon certain standards which would be binding, enforceable and permanent. After careful examination, it was decided that no progress could be made unless the bottom grade for jute was established once and for all in such a way that no deviation was possible. The other grades would then fall into place naturally. Accordingly, the following standards were instituted with effect from August 15, 1938.

Grade	STANDARD (Guarantee)
	WHITE JUTE
Top	Sound fibre, good colour of the district, cutting not to exceed 25%.
Middle	Sound fibre, cutting not to exceed 35%.
Bottom	All jute of whatsoever description not capable of inclusion in, or acceptable under, 'Top' or 'Middle' marks but free from hunka and/or stick.
	TOSSA JUTE
Top	Sound fibre, good colour of the district, cutting not to exceed 15%.
Middle	Sound fibre, cutting not to exceed 25%.
Bottom	All jute of whatsoever description not capable of inclusion in, or acceptable under, 'Top' or 'Middle' marks but free from hunka and/or stick.

The mills' views were communicated to the Calcutta and the Bengal Jute Dealers Associations to enable them to act accordingly, and the buyers with few exceptions undertook not to purchase jute for ordinary mill purposes on standards other than those mentioned above. Further, it was clearly stated that the standards set did not concern purchases of *pucca* bales covered by the usual *pucca* bale marks.

309. Judging from the reports of balers and mills, these grades appear to have worked satisfactorily throughout that season. This is confirmed by the fact that, later on, after reviewing the position, the Joint Committees decided that for 1939-40 season the standards and marks in force would continue unchanged. It seems, therefore, that the combined action of the Associations concerned has at last brought about a measure of

stability in the standardization of loose jute qualities and grades. But, after only two year's successful working, it would be premature to conclude that the standards have been finally settled in such a manner as to make deviation from them impossible in the future.

3. CLAIMS AND THEIR CAUSES.

310. *General*—Complaints by consumers against the non-fulfilment of contract obligations by sellers are numerous, the most common being on account of (i) short weight, (ii) excess moisture and (iii) inferior quality. Low quality jute or jute containing excessive moisture tendered in fulfilment of a contract cannot always be attributed to bad growing conditions. Practically all mill purchases are for fibre which will be delivered at some future date, generally after two to three months, and the price of the fibre is that which is ruling in the market on the day on which the contract is made. During the period between the forward sale and delivery, balers endeavour to cover their commitments at a price sufficient to meet working costs and commission. Irrespective of market rates which may prevail later, they are compelled to fulfil their contract obligations. On a fast rising market, many are caught short in their deliveries, and it is not uncommon for the less scrupulous merchants to minimise their losses by packing considerable quantities of low quality jute under higher grades or to increase weight by adding water. Consumers are fully alive to these practices and exercise a close watch on all deliveries. Consignments of jute are inspected as soon as practicable after their arrival at mills. The routine for such inspection is uniform. Bales are selected at random and placed unopened at a spot where the light is even so that the fibre can be examined under the most favourable conditions. It is customary to hold inspections in the mornings, generally from 6-30 to 7-30. The actual handling and examination of the fibre is ordinarily done by a representative of the managing agents and the mill manager who report thereon.

311. (i) *Short weight*—The most common complaint is on account of short weight. When jute is delivered at the buyers' premises, it is weighed on 'steelyard' or platform weighing scales which are regularly checked for accuracy. It has been found that most consignments fall short of the contracted weight. The sellers are advised of this within five working days of the arrival of jute in the buyers' premises. It is not infrequent for a seller

to dispute a consumer's weights, in which case re-weighment may be carried out by the Licensed Measurers Department of the Bengal Chamber of Commerce. Should the shortage on re-weighment be not less than 20 per cent. lower than verified by the buyer, then charges are on buyer's account. If the shortage is less than 20 per cent. the seller pays the costs of re-weighment.

312. (ii) *Excess moisture*—If jute feels damp or moist when handled, mills generally record claims. Sometimes, a rough test is made on the lines mentioned previously.¹ The managing agents then inform the seller that the jute supplied by him contains more than the free allowance of moisture and arranges for him to inspect it at the mill. During the subsequent inspection, the percentage of moisture is discussed on the spot. The baler, or his representative, handles the fibre and expresses his opinion of the quantity of moisture above normal. In the majority of cases, an agreement is reached and the mill is given an allowance based on the net weight of the fibre. In due course, the buyer submits a bill for the amount involved.

313. (iii) *Quality*—If the fibre supplied is not up to the standard contracted for, a claim is made and the seller is requested to inspect the delivery in dispute in company with the buyer's representative. Usually an agreement is reached on the allowance and a bill is submitted to the seller.

4. ARBITRATION BY BENGAL CHAMBER OF COMMERCE.

314. Settlement of disputes by consultation between buyer and seller at a combined inspection is generally accepted by the trade. In the course of a season the number of claims for excess moisture or low quality runs into thousands. The great majority of these are settled amicably in the manner described but those which cannot be composed by mutual agreement are referred to the Tribunal of Arbitration of the Bengal Chamber of Commerce, whose decisions and awards are final and binding on the parties concerned. The panel of arbitration of the Tribunal is constituted of arbitrators who have been recommended by their firms as possessing practical knowledge to enable them to settle disputes relating to quality, condition or customs of trade.

315. On a case being submitted for arbitration, the Secretary of the Bengal Chamber of Commerce, in his capacity as Registrar, nominates certain members of the Tribunal to form a court. The arbitrators may either proceed to the mill or press house and

¹ See Ch. V, Sec. C 3, *supra*.

examine all or a few of the bales in dispute, or state the number of bales which they wish to examine. The parties are then notified of the date, time and place where the arbitration will be held and, in the case of arbitrations taking place at the Chamber of Commerce rooms, they are requested to send for inspection the number of bales required by the arbitrators. Each party is entitled to select half the number of bales to be examined, which are then sealed and sent to the Chamber several hours before the time fixed for inspection. On their arrival, the parties are called on to identify the bales selected and sealed by them. The arbitrators then check and remove the marks and inspect the jute. If necessary, they may hear oral evidence from the parties. The Court is required to make its award in writing within thirty days after entering on the reference, unless the time limit is specially extended. Should the Arbitration Court fail to agree, the Registrar is empowered to nominate an Umpire, selected from the list aforesaid, who will be at liberty either to act upon the evidence taken in connection with the first inspection or to commence the arbitration anew. The award by the Umpire is binding upon all parties or their representatives. It has been stated that usually 100 to 200 arbitrations are held yearly which, having regard to the number of claims arising, is a relatively small number.

316. A fee Rs. 80 is payable in respect of each arbitrator or umpire when not more than two qualities or marks or deliveries of jute are examined under the same contract. For each further quality or mark or delivery examined in excess of the first two and under the same contract, an additional fee of Rs. 40 is payable to each arbitrator. For each assorter engaged to handle and select the fibre at the actual examination, a sum not exceeding Rs. 1-8-0 is charged, together with all incidental expenses connected with the selection and carriage of samples. In addition to these charges, an institution fee of Rs. 32 is payable to the Tribunal in cases where one or both parties are members of the Chamber of Commerce; but, when neither party is a member, the institution fee payable is Rs. 200.¹ The award of costs is in the entire and sole discretion of the arbitrators.

¹ Distinct from the above are arbitrations which concern principally the non-fulfilment of contract obligations. These may arise in cases of non-payment against deliveries, failure to deliver on due date, non-acceptance of weights or other breaches of contract terms.

The fees in such cases, which are generally referred to in the trade as 'paper arbitrations,' are Rs. 48 for each arbitrator plus an institution fee of Rs. 32 when both parties of the dispute are members of the Chamber of Commerce, or Rs. 140 when parties are not members.

CHAPTER VI CONSERVATION

317. The season for the marketing of jute and the progress of the monthly sales have been discussed previously.¹ It was also indicated in that connection, that the time of sales was mainly controlled by the financial condition of the growers and the transport facilities available between villages and secondary markets; with the result that 80 to 90 per cent. of the marketable surplus was disposed of by the end of December 1937. Again, many growers were compelled to sell early owing to their inability to provide adequate storage accommodation for jute. Thus, it was established that there was a general desire on the part of cultivators to sell their fibre within 3 or 4 months of the completion of the preparation processes.

A. CONDITIONS GOVERNING STORAGE

1. GROWERS.

318. Taken as a whole, the jute growers, being small-scale farmers, do not produce large quantities of fibre. The Enquiry appears to show that the average production of a jute grower is approximately 22 mds. out of which about one maund of fibre is retained by him for domestic requirements². It may, therefore, be concluded that about 20 maunds of jute are available for sale per grower. The extent of the production of jute by individual growers, questioned during the Enquiry, is shown below.

TABLE LV
Production by Individual Growers (1937-38).

Provinces	Percentage of growers producing				
	0-5 maunds	5-10 maunds	10-20 maunds	20-30 maunds	Above 30 maunds
Bengal					
East	14.3	22.4	26.3	15.5	21.5
North	20.8	27.5	26.5	12.3	12.6
West	22.7	33.4	28.3	9.0	6.6
Bihar	23.8	21.1	27.9	13.2	14.0
Assam	33.0	20.0	24.7	11.0	11.3
Orissa	28.0	20.0	24.0	16.0	12.0

NOTE—Details according to districts, are given at Appendix K.
Source—Marketing Enquiry.

¹ Cf. Ch. II, Sec. D, supra.

² Cf. Ch. III, Sec. C 1 (c), supra.

Thus, it will be seen that nearly 37 per cent. of the growers in East Bengal and about 50 per cent. in the other jute areas of Bengal, Bihar Assam and Orissa have an average individual outturn of 10 mds. or less. Similarly, 24 to 28 per cent. of growers, in general, produce on an average 10—20 maunds. It would appear, therefore, that the remaining growers—37 per cent. in East Bengal and 15 to 28 per cent. elsewhere—have an average individual production of over 20 maunds. Under these circumstances, the bigger cultivators only are in a position to store fibre for long periods, i.e. after December each year.

2. FARIAS AND BEPARIS.

319. It will be recalled that the first link in the chain of middlemen consists of the peripatetic dealers, i.e. *farias* and *beparis*—whose *modus operandi* varies from district to district—and that the latter are of four types¹—

(a) those who act as the paid employees of merchants (*aratdars*) and balers,

(b) those who act as the authorised agents of merchants and balers,

(c) those who borrow money from the bigger dealers to carry on their own business, and

(d) independent, i.e. 'free-lance', *beparis*.

The first two types assemble fibre and deliver it to their principals according to instructions. The third class, i.e. the financed *beparis*, are granted loans on the understanding that the jute which they purchase will be sold within a short time to the parties from whom they have borrowed money. The question of storing for better prices, therefore, does not arise in the case of these intermediaries.

Lastly, there are the 'free-lance' *beparis* who operate with their own capital as small traders and therefore undertake the risk of price fluctuations in the *profussil* and Calcutta markets. Most of them, however, are small-scale dealers who normally convert their fibre into cash as early as possible so that they may continue to trade. Usually these *beparis* aim at a large annual turnover. It may be said, then, that only wealthy *beparis* are able to hold jute for a rise, and even such do not generally store for more than 6 to 8 weeks. The storing of jute for longer periods is rare among peripatetic dealers.

3. ARATDARS.

320. As a rule, large number of such merchants store jute.

¹ Cf. Ch. III, Sec. B 2 (a), supra.

Those who act solely as the agents of outside buyers store as long as their principals require them to do so. But, correctly speaking, this should not be treated as storage by *aratdars* who merely provide the necessary accommodation, the selling policy and the period of storage being decided by the buyers themselves. Thus, long term storage can be undertaken by those merchants only who are financially independent of balers and who carry on business on their own account. Generally, they are speculators and store jute for a rise in prices. It is a matter of common knowledge that these merchants sometimes speculate on the possibilities of the following year's crop. No information in regard to the stocks carried forward by the *aratdars* from month to month is available.¹ Whatever fibre they may store is in loose form and not baled.

4. KUTCHA BALERS.

321. The most important storers of jute in the *mofussil* are the *kutcha* balers. If the current prices happen to be low and a rise expected, or if the supply of fibre is likely to fall off, those dealers who can afford to do so buy large quantities of fibre and store it for the future. Those *kutcha* balers who wish to dispose of their fibre, despatch it to the various terminal markets in Calcutta where there is generally a ready demand for the various classes of jute. Other balers, however, who take a bullish view of the market, prefer to wait and store for better prices. They store jute in baled form. Such jute, if carried over to the next season, is sold on the basis of the standards which existed at the time of packing. Therefore, in most years, a moderate quantity of the previous season's mature jute is available at a time when the new crop offered for sale is immature, one noticeable fact about the fibre carried over by *aratdars* or balers being that it is usually of good quality and suitable for the higher grade marks. The following example of balers operating in a few typical secondary markets, during the season 1937-38, clearly illustrates this point. It was estimated that in the interior, 7½ per cent. of the crop was carried over from 1936-37, the standards set for each grade being the same for both years. In the first 2 or 3 months of the new season, 1937-38, the outturn of superior grades was higher than during the rest of the jute year. These high grade marks were made from the good quality jute carried forward from the last season.

¹ Cf. Table LVII, *infra*.

TABLE LVI
 Percentages of Grade Outturn in a few Baling Centres(1937)

Markets and Grades	July	Aug.	Sept.	Oct.	Nov.	Dec.
Tarpassa						
2	7	...	...	...	...	...
3	25	8	20	4	4	4
4	45	32	40	27	26	20
R	23	48	35	48	40	41
TJ	...	12	5	21	30	35
Nakalia						
3	11	9	3	2	5	...
4	60	48	2	13	20	21
R	22	33	58	58	37	51
TJ	5	8	37	27	29	27
HTJ	2	2	...	...	9	1
Charmugaria						
3	13	10	...	...	...	...
4	62	55	30	10	...	...
R	25	35	55	50	40	15
TJ	...	...	15	40	60	85
Ashuganj						
3	...	3	6	5	1	...
4	60	54	57	60	43	8
R	40	43	33	30	43	57
TJ	...	...	4	5	13	35

NOTE—The figures refer to European balers only. Indian balers could not supply similar information as they maintain their books in a different form.

The period and the extent of storage naturally depend upon the expectation of higher prices ruling in the future. During the Enquiry, it was found that the fibre carried over jointly by *aratdars* and *kutchas* balers on 30th June, 1938, varied as between districts, from about 1.4 to 10.9 per cent. of the total carry-over for that year.¹ It should be mentioned, however, that during first and second quarters of 1938 the prices of jute were low from which it may be concluded that, given good prices, very little jute is likely to be carried forward from one season to another.

B. TYPES OF GODOWNS AND METHODS OF STORAGE

1. VILLAGE.

322. Most of the growers do not possess special storage accommodation for jute, and so the method of storage generally

¹ Cf. Table LVII, *infra*,

prevalent in the villages is very primitive. They spread bamboo sticks on the floors and place on them the jute bundles. By this method, the fibre does not come in direct contact with the damp ground. These houses ordinarily have bamboo walls and thatched or corrugated iron sheet roofs. The floors are invariably *kutchra* being merely hard beaten earth. A variation of the above method of storage in villages is more favoured by the well-to-do growers who desire to store fibre for a period of, say, three months or more. They construct bamboo platforms—called *machas*—about 2 feet high, inside the rooms selected for the storage of jute. The fibre is then arranged on these *machas* in bundles weighing from 5 to 20 seers each. The platforms being raised above the ground, the risk of destruction by mice or other pests is considerably reduced. These methods of storage are also practised by the few *beparis* who normally store fibre in their houses. Separate structures for storage purposes are seldom erected in villages either by the growers or by the intermediaries.

2. PRIMARY MARKETS.

323. In primary markets, jute is generally stored in godowns having corrugated iron sheet roofs with walls of the same material or of bamboos. The floors in almost all cases are of beaten earth. For temporary storage—up to a month or two—no particular arrangement is made, and the fibre is piled up on the bare floor. When storage is carried out for longer periods, the jute is stacked either on wooden planks or on bamboos placed on the ground. Again, it may be stored, either loose or in bundles, on *machas* at a height of 9 to 18 inches above the floor level. Most of the godowns in primary markets are owned by the dealers themselves, while some are rented for the jute season. Godown rent is regulated by several factors, namely—

- (a) Location of godown in the market,
- (b) Importance of the market,
- (c) Storage capacity, and
- (d) Type of building.

The amount of rent paid, therefore, varies considerably in primary markets throughout the jute growing areas. It ranges between Rs. 25 and Rs. 50 per annum for a godown of approximately 1,000 mds. capacity. In addition to the peripatetic dealers, *aratdars*, who also operate in the primary markets, generally have their own godowns. Apart from storing their own fibre, they often store jute belonging to *farias* and *beparis* and arrange for

its sale when prices are favourable. Similarly, *aratdars* sometimes buy jute on behalf of balers and store it till the time of despatch. These merchants, whether operating on behalf of *beparis* or balers, usually receive a consolidated amount of Re. 0-0-9 to Re. 0-1-3 per maund which includes their selling or buying commission as well as the charge for about two weeks' storage. Jute godowns in the primary markets are seldom insured against fire, theft, etc.

3. SECONDARY MARKET (BALING CENTRES).

324. The godowns used by balers for the storage of jute in secondary markets are generally substantially built structures, affording good protection from weather. In large stations, such as Narayanganj, Chandpur, Sarisabari, Serajganj, etc., many godowns are of solid brick construction throughout with asphalt flooring, but the vast majority of godowns in baling centres have corrugated iron sheet walls and roofs built over a frame of stout bamboo or sal wood. These godowns, which ordinarily have a capacity of 5,000 to 10,000 mds., are of much larger size than those in the primary markets. However, godowns capable of storing 20,000, 30,000 and even 50,000 mds. are not uncommon. When a baler does not himself own a godown, he may hire one for the season. The rent actually depends upon the factors mentioned previously, but it was found on enquiry that a godown of 20,000 mds. capacity could usually be hired for Rs. 100 to Rs. 150 a year. Insurance of the buildings and stocks against fire is not universal. While all the European balers insure jute stocks, few of the Indian balers do so. The insurance rates vary according to the structure and situation of the buildings. Arson was reported to be of infrequent occurrence. *Aratdars*, who are not the agents of buyers, ordinarily allow the old clients among *farias* and *beparis* to store jute in their premises. No limit is placed on the period of storage, but there is an understanding that the fibre will be sold through such merchants. The sellers pay the *aratdars* from 6 to 9 pies per md. which covers the latter's selling commission as well as the storage charge. Occasionally, balers also give storage facilities to those *beparis* with whom they have close business relations. The sellers are allowed to store fibre in the balers' import sheds for about a fortnight or a month. Such storage is free as the balers expect that ultimately the jute will be sold to them. Again, in a few markets in Purnea district, sellers (including growers) from the countryside are allowed by the local balers to store jute from one

hat day to another, either free of charge or on payment of a nominal storage fee of 3 pies per md.

4. TERMINAL MARKETS (CALCUTTA).

325. (a) *Shambazar*—Most of the godowns in the Shambazar market are *pucca* masonry structures with paved floors. A few have brick walls, corrugated iron sheet roofs and *kutchha* floors which are usually treated with tar to keep away white ants during the monsoon months. The godowns are either owned by the *aratdars* themselves, or else are hired for the jute season. In the latter case, the annual rent for a godown of 1,000 mds. storage capacity varies from Rs. 100 to Rs. 200, the lower rate being applicable to old *kutchha* (non-masonry) godowns and the higher to new and *pucca* (masonry) structures. Jute arrives in the form of bundles and drums of 30 to 40 seers each, and storing is carried out by piling these one over the other. This market serves the *daisee* jute districts, and the *beparis* in these areas are generally financed by the Shambazar *aratdars*. There is the usual undertaking that the fibre will be sold through the financing *aratdars*. Hence, the *beparis* are allowed to store fibre free of charge. If, however, the period of storage exceeds one month, or if a *bepari* not previously known to an *aratdar* desires to store in the latter's godown, a storage charge of 6 pies per md. has to be paid irrespective of the period for which the fibre is stored.

326. (b) *Hatkhola*—Almost all the godowns in this market are brick buildings with cement flooring. Some *aratdars* have their own godowns, while most hire them for the season. There are about 100 godowns with a total storage capacity of about 4 lacs of maunds. The capacity of these varies from 500 to 10,000 mds. At present, the rent for a godown with a storage capacity of 1,000 maunds ranges from Rs. 120 to Rs. 180 per annum according to its situation and the type of structure. Hatkhola market receives its supplies from all the jute growing areas. The dealers upcountry may not have financial relations with the Calcutta merchants. Therefore, the Hatkhola *aratdars* always charge separately for storage. The usual rate is 5 annas per 100 maunds per day, but for old clients it is often reduced to 4 annas. As the jute reaches this market in *kutchha* bales, storing is rendered easy, and the bales are stacked on top of each other in even rows to a height of 13 or 14 bale widths, say, 18 to 20 feet.

327. Very few of the *araidars* of Shambazar and Hatkhola markets insure their godowns and stocks against fire. Insurance of stocks is more commonly effected during the hot weather than in the monsoon months. The actual premia depend upon the period for which the policies are taken out as well as on the amount of risk involved. The usual rate of premium is Rs. 1-4-0 per cent. per annum. A Fire Brigade tax is imposed on all godowns. The rate applicable to Hatkhola Market is 10 per cent. of the annual valuation of a building, while a consolidated Municipal tax of 19½ per cent. is imposed at Shambazar.

328. (c) *Cossipore—Araidars*, who are called 'sellers' in this market, do not have godowns as their transactions are carried out while the jute is still lying in the railway goods shed. If a particular consignment is not sold within a day or two of its arrival, it is removed to a rented godown situated in the neighbourhood and stored there until final disposal. The *Cossipore araidars* charge the upcountry merchants a storage fee of one anna per maund per month.

5. CONSUMERS' PREMISES.

329. (a) *Mills*—In most mills, the jute godowns are of solid brick and cement construction throughout and are thoroughly water tight. Their capacity ranges from 20,000 to 50,000 mds. of baled jute. It is estimated by the trade that the total storage capacity of the mills in Calcutta is from 50 to 55 lacs of bales of 3½ mds. each, which is approximately one-third of a normal year's crop of jute. The system of piling or 'stacking' bales in these godowns is uniform. Tiers are built up by laying the bales lengthwise and crosswise alternately to within three or four feet of the roof. Insurance regulations stipulate that bales must not be stacked against the walls, and that a passage of about 18 inches must be left to permit the circulation of air. Practically all mill godowns are equipped with sprinkler systems which, in the event of a fire breaking out, release jets of water which spray continuously over the jute. Fires in well controlled mills are rare and when they do occur, it is in most cases extremely difficult to trace their causes.

330. (b) *Pucca balers*—The press houses and godowns of Calcutta *pucca balers*, engaged in selecting and baling jute for overseas consumption, are situated on both sides of the river Hooghly on a frontage of five or six miles. These are extensive

premises and are, almost without exception, solidly constructed of brick. Apart from the large selecting and baling sheds, there are commodious godowns for storing both loose and baled jute. In many cases, the sprinkler system in universal use in mills is installed as a protection against fire. The estimated storage capacity of godowns owned by *pucca* balers in Calcutta and district is considered to be about 20 lacs of bales of 3½ mds. each, which is approximately one-fifth of a normal crop.

C. EFFECT OF STORAGE ON FIBRE

1. GENERAL.

331. It is unfortunate that no reliable data are available in regard to this subject. Trade opinion differs about the actual percentage of loss in weight and the extent of deterioration in colour and strength, which result from prolonged storage, and it has only been possible to deal with the subject in a general way. Consumers were required to supply information regarding loss in weight or general deterioration in storage but were unable to do so. It appears desirable, therefore, that experiments and tests should be undertaken to provide precise information on this subject. It would not be out of place, however, to point out that one of the necessary conditions of storage is that jute should be stored in a reasonably dry condition. A high percentage of moisture combined with heat encourages fermentation and results in damage to the fibre, especially in the interior of the bales.¹

2. LOSS IN WEIGHT.

332. Jute packed during the monsoon (July to September), when stored for a period of six or eight months, has been found to lose more weight than that packed later in the year. The reason for this is that, during the early months of the season, jute is dried and packed when the air contains a very high percentage of moisture which is absorbed by the fibre. From October onwards, when humidity is not so high as during the rains, the amount of moisture absorbed is less. This fact is accepted by the trade which allows for the natural moisture content 12 per cent. from July to the end of September, and 10 per cent. thereafter.

333. It is a fairly common practice for consumers with limited mill storage accommodation to store jute in balers' premises upcountry. Two points in this connection are worth

¹ Cf. "Moisture Relationships of Jute" by S. G. Barker, *op. cit.*

noting. The first is that only the better qualities of hard *jat* and *district* jute are usually stored because of their relatively small deterioration in quality; and, secondly, all such fibre is stored in dry condition. Even so, mills recognize that the stored jute loses weight through evaporation, and so a free short weight allowance of 2 per cent. is given when delivery is taken of jute stored on their behalf for six months or more. It is further reported that the fibre stored throughout the hot weather in corrugated iron godowns may lose as much as $3\frac{1}{2}$ per cent. in weight, which it regains to the extent of 1 to $1\frac{1}{2}$ per cent. if storage is continued after the commencement of the rains.

334. The brick or stone godowns in which jute is normally stored, afford adequate protection from the weather but mills, which at times carry very large stocks, are sometimes compelled through lack of accommodation to pile bales in the open, which they cover with bamboo mats and tarpaulins. Generally this is not done before the month of November or December and the jute so stored is, as a rule, consumed before the monsoon rains commence in June. One large group of mills reported that the jute piled in the open (with bamboo matting and tarpaulin covers) from November to May, lost weight to the extent of 4.7 per cent. At the time of unloading at mill jetties or railways sidings, all jute is carefully weighed before storing. A second weighment is usually made at the time of issue to the mill or manufacture, but it is difficult in most cases to keep a complete record of actual deliveries. Mills have reported that they estimate the 'godown shortage' or 'loss in weight in storage' at $1\frac{1}{2}$ to 2 per cent. in a year. This subject is likely to yield interesting results if given close study. A loss of 2 per cent. of the total value of one year's jute consumption by the mills in India represents a sum of thirty five to forty lacs of rupees.

3. DETERIORATION IN COLOUR AND STRENGTH.

335. (a) *Jat*—Consumers report that jute of hard *jat* white quality of East Bengal does not change much in colour even after long storage. The various lots inspected after three years in storage showed that the fibre retained much of its original light creamy colour, although the outsides of the bales which were exposed to air had darkened considerably and were of a light brown shade. Moreover, the strength of this fibre had not perceptibly weakened as the individual strands were of firm texture, and when tested the results compared favourably with those of

the fibre produced during the year of inspection. This is typical of true *jat* white jute which has been stored in dry condition and has not been exposed to weather. If kept in storage for long periods, the light golden colour of *jat* tossa generally tends to darken, and thus makes it unfit for the manufacture of fabrics in which good colour is required. It does not deteriorate appreciably in strength if properly stored.

336. (b) *District*—Most of the jute of this quality can withstand storage for a considerable length of time with little change of colour or strength, particularly that grown in the districts of Dacca and Mymensingh and in north Noakhali. After a comparatively short period of storage, the jute from lower Tippera and Faridpur shows a tendency to turn a dull reddish brown colour, especially at the root ends. The roots are said to become hard and woody, and this hardening tends to extend the whole length of the fibre making it difficult to spin. It is customary for manufacturers to use this class of jute as soon as possible after delivery.

377. (c) *Dowrah* is harsh low class jute and when stored, even under the most favourable circumstances, soon deteriorates in colour, becoming a dirty gray or brown. The fibre is said to coarsen and become hard and brittle, and is difficult to spin successfully. It is not customary for *Dowrah* to be stored for long periods.

338. (d) *Northern*—This jute is classified by the trade as *soft*, and has a tendency to absorb moisture more quickly and to a greater extent than the *hard* qualities. Care has, therefore, to be exercised to ensure that it is in a dry condition at the time of storing. In a dry state, *soft* jute can be stored up to one year with little resultant loss of colour or strength. If, however, this quality contains, before storing, its normal moisture content, it deteriorates quickly and the lustre soon disappears leaving it dull and lifeless or, as the trade say, 'dazed'. Colour deteriorates and the light gray or *shamla* takes on a deeper shade making it unsuitable for the manufacture of high grade hessians.

339. (e) *Daisee*—It has already been stated that *daisee* jute is generally considered to hold a somewhat greater amount of natural moisture than the fibre from East Bengal. Balers state that this class of jute bundles, looks and feels best when it con-

tains about 15 per cent. of moisture. Stored in this condition, the fibre retains its gloss and does not deteriorate to any great extent for a period of six or eight months; but, when stored in a wetter condition, it deteriorates rapidly and the strands become limp, flaccid, weak and dazed.

340. *Summary*—It would appear, therefore, that the jute produced in the white *jat* areas of East Bengal is superior to that of other areas from the storage point of view, whereas *tossa* and *soft* Northern qualities deteriorate quickly even when stored under the best possible conditions. The causes responsible for this state of affairs are to be investigated by the Technological Section of the Indian Central Jute Committee and the results, it is hoped, will prove of great benefit to the trade in general.

D. STOCKS: PERIODICITY—CARRYOVER

341. Upcountry stocks figures are not collected by any official agency.¹ A few of the largest jute firms publish estimates of stocks in the *mofussil* which are based on the reports of various intermediaries and cannot be considered reliable. During the Marketing Enquiry, however, the following information regarding stocks was obtained from the different dealers and growers interrogated.

TABLE LVII
Reported Stocks Upcountry on 30th June, 1938.
(Percentage of total production)

District	With growers, <i>farias & beparis</i>	With <i>aradars &</i> balers	Total.
Jessore	6.3	6.2	12.5
Nadia	3.1	6.3	9.4
Noakhali	8.2	10.9	19.1
Pabna	1.0	7.0	8.0
Jailpaiguri	1.4	4.9	6.3
Rangpur	1.2	6.8	8.0
Mymensingh**	—	1.4	1.7
Faridpur	1.4	1.6	3.0

** The growers and *beparis* of Mymensingh did not report any stocks carried over to next season.

Source—Marketing Enquiry.

The witnesses gave their individual opinions regarding the extent of the stocks left over at the close of the 1937-38 season.

The annual stocks position is mentioned in the Jute Forecasts in vague terms, e. g. "little", "very little", etc. No actual figures are given.

Their estimates, however, should be treated with caution. The activities of growers and *beparis* are too small to provide opportunities for collecting detailed information of this kind. Moreover, when asked to disclose their stocks, most of the *aratdars* and balers (who are generally well posted in such matters) were not prepared to divulge what they regarded as business secrets.

342. The estimates of the various Calcutta firms usually show marked discrepancies but, in the absence of more reliable figures, the average of 3 sets of estimates have been included in the table below.

TABLE LVIII
Estimates of Stocks Upcountry (000 bales).

30th June	Calculated production	Published trade estimates of stocks			Average estimates of stocks	Average stocks as percentage of production
		A	B	C		
1932	7383	2050	900	2500	1816	24.58
1933	9034	1450	700	2200	1450	16.05
1934	9775	1675	1300	1600	1525	15.60
1935	10958	900	950	2000	1283	12.38
1936	8633	800	850	1400	1016	11.76
1937	11272	433	480	500	488	4.33
1938	11895	1000	1550	1600	1333	11.02
General average		...	...	...	...	13.1

It will be noticed that the annual carryover in the *mofussil* varies from year to year. The play of economic factors, such as demand and current prices, must necessarily influence stocks but, according to the view of the trade, about 10 per cent. of any one year's jute crop is usually carried forward to the next season. If prices in the first two quarters of a year are particularly high or low, less or more fibre would naturally be stored. On average, about 13 per cent. of the annual production of jute was stored upcountry during the seasons 1931-32 to 1937-38.

CHAPTER VII

PRICES

A. GENERAL

343. The comparison of jute prices at the different marketing points is rendered difficult by the changing quality of fibre not only from district to district, but also within small areas in the same district. This difficulty is accentuated by the varying forms in which jute is sold at villages, *hats* and markets in the course of its transition from the producer to consumer. As all jute is sold in a completely unassorted condition in the first instance and as supplies reaching *hats* and secondary markets are drawn from increasingly wider areas, the grade outturn may undergo considerable change from place to place during a season. Moreover, the time lag between any two stages of marketing varies according to the type of dealers acting as buyers at the initial and subsequent stages. Thus, it is not possible to determine with a reasonable degree of accuracy, the prices paid at *hats* and baling centres for the individual lots of jute sold by growers in villages.

344. A comparison of prices paid in the upcountry secondary markets with those ruling in Calcutta is, likewise, full of complexities. The *kutchia* baler buys jute in a completely unassorted form but sells it properly graded according to commercial standards, either to mills or *pucca* balers. Or, he may sell it in the loose jute markets of Calcutta either on the basis of the recognized grades or as the fair average quality of the area in which he is established. In both cases, the transactions are mainly of a speculative nature, and there remains a chance that a certain lot of jute, previously purchased, may ultimately be sold at a lower price or that a forward sale may subsequently be covered at a higher price, thus involving the baler in a loss. As the success, or otherwise, of a firm is judged by the net results of a season's business, losses on isolated transactions may be considered a normal feature of trading in jute. Therefore, hardly any relation can be established between the prices paid and received by a *kutchia* baler for individual lots of jute.

345. An attempt was made during the Enquiry to prepare a price structure on the basis of the day to day prices ruling at

villages, *hats* and secondary markets. The process, however, involved certain complications. First was due to variations in the grade outturn of jute at every succeeding stage of marketing. Secondly, in many cases, the data proved insufficient, for although the majority of growers could quote the prices which they had received, information given by them on points of quality was vague and often misleading. Nor did *farias* and *beParis* prove more helpful. Most of the *kutch*a balers could not give definite information regarding their average purchase prices and the grade outturns during the period under review. Many bigger firms of merchants were, however, the exception to the general rule and supplied information of considerable value.

B. PRICE FIXATION

1. DETERMINING FACTORS.

346. The basic price offered for loose jute in upcountry markets and villages is entirely governed by the price which consumers are willing to pay. The highly organized manufacturing industry both in India and abroad has to study carefully the conditions governing the demand for jute goods; thus the price payable for the raw fibre depends in the main on the state of the ultimate consuming markets. Failure of crops in many parts of the world has severe repercussions on the demand for jute goods, as also have the tariff policies of the various consuming countries which aim at fostering indigenous fibres. Again, overproduction, resulting in the accumulation of vast unsold stocks of jute and jute manufactures, plays an important part in price determination. It must be realized that the demand for jute goods is a derived one and is susceptible to the effects of economic forces on the many commodities for which those goods are used as wrappers and containers. Further, the movements of the highly speculative jute futures market, commonly known as *farka* in Calcutta, have a direct bearing on prices at all marketing stages as many merchants and balers base their views of future price trends upon the fluctuations in that market rather than upon an intelligent anticipation of supply and demand.

347. (a) *Price in relation to quality*—The main points worth considering in this connection are the strength, length and colour of jute as also the proportion of roots in the fibre.¹ The ultimate value of the fibre is affected by variations in any of these quality factors. There are, however, no rules regulating

¹ *Vide* Ch. V, Sec. B 2, *supra*.

the amounts to be deducted on account of changes in any of them. It was reported by some reliable *kutchas* balers that the price differences are based more or less on the suitability of the individual lots of fibre for various grades. In addition to the above, the moisture content of jute is an important factor in the determination of prices as, apart from its harmful effect on fibre, it tends to increase the gross weight of jute.¹ Buyers express their estimation of excess moisture in terms of seers per maund, and the prices are finally settled after making due allowance for the same.

348. (b) *Price difference for various classes*—Again, the characteristics peculiar to the fibre of certain jute growing areas,² affect the respective manufacturing values. This fact is responsible for one class of fibre fetching a higher price than the other. Unfortunately, no scientific data are available to determine the extent of the superiority of one class over another, and the price differences are based on the considered opinion of the manufacturers regarding the spinning qualities of the various classes of fibre. As *jat* fibre has firm well defined texture, spins into the finest yarn and involves the least waste, it is considered to be the best class of jute. The price differences for other classes are expressed in terms of discounts on *jat* prices. These are fixed by the mills and shippers in Calcutta, and fluctuate according to the trend of prices and the demand for any particular class of jute. The following price differences prevailed in the Calcutta loose jute market in 1938-39.³

<i>Jat</i>	Highest price
<i>District</i>	2 to 4 annas below <i>jat</i> .
<i>Northern</i>	4 to 6 " " "
<i>Dowrah</i>	4 to 12 " " "
<i>Assam</i>	4 to 12 " " "
<i>Western</i>	6 to 10 " " "

These differences are not usually maintained upcountry where prices are determined more according to quality factors than on the basis of the class of jute involved. The prices shown in the following table were actually paid to growers in villages located in areas where each class of jute is produced in its most characteristic form, and furnish an interesting comparison.

¹ *Vide* Ch. V, Sec. C 3-(a), *supra*.

² *Ibid*, Sec. B 1.

³ *Daisee* jute is sold under separate price standards.

TABLE LIX
Village Prices of Representative Classes of White Jute.
 (For the week ending 3rd December 1938).

Class of Jute	Average price per maund			Price difference maund per		
	R.	a.	p.	R.	a.	p.
<i>Jat</i>	5	1	0	...		
<i>District</i>	4	13	6	0	3	6 below <i>Jat</i> .
<i>Northern</i>	4	10	0	0	7	0 " "
<i>Dowrah</i>	4	7	0	0	10	0 " "
<i>Western</i>	4	5	6	0	11	6 " "
<i>Assam</i>	3	14	9	1	2	3 " "

It will be noticed that, as compared with the maxima shown in the preceding paragraph, the actual price differences were approximately the same for *district* and *dowrah*, more for *northern* and *western* and much higher for *assam*. This may be explained by the fact that cultivators in East Bengal are generally better informed, and are more conversant with the practices of the jute trade than those in the rest of the jute growing areas. Nevertheless, the discounts appear to be high. *District* jute may eventually be sold in *jat* centres and fetch a higher price, but the grower does not receive any portion of the profit resulting from this practice. The same may be said about *dowrah*. Much of this fibre is sold in the Madaripur and Charmugaria markets of Faridpur district and, after being mixed with better class jute, is eventually disposed of as *district*. But, again, the advantage of higher prices thus obtained, goes to *kutch* balers.

349. The case of *northern* and *western* jute however, is, different. There is considerable variation in the quality of jute produced in North Bengal and Bihar. It may be inferred from the price differences shown in the above table that, for all practical purposes, quality rather than class is the determining factor in the fixation of prices, at least in villages and *hald*. The exceptionally low prices paid to the growers in *Assam* may, be attributed to the fact that reliable market information is not available to them, and so they are more often exploited by *beparis*. During the season 1938-39, *Assam* jute was quoted at 4 to 12 annas per maund cheaper than *jat*, and ordinarily the maximum difference in villages should not have exceeded that of *Calcutta*. But, actually, the average price paid in *Assam* villages was Rs. 1-2-3 per md. less than that in the *jat* centres. Thus, the difference of Re. 0-6-3 per md. remains unaccounted

for, and no explanation could be obtained from the individuals interviewed. If it was appropriated by *beparis*, as seems quite likely, it must have given them a very substantial margin of profit.

350. (c) *Premium for tossa*—The tossa variety of jute is reputed to be of finer spinning quality than white jute of the same class, and so frequently enjoys a premium over the price of the other. The *jat* and *district* classes of tossa are much favoured by manufacturers in India and abroad, and there is a keen demand for both, particularly the former. Northern tossa, though inferior to the fibre produced in Eastern Bengal, also enjoys a premium. Being a late variety, tossa is marketed in East and North Bengal from the months of August and September respectively, and so great is the demand that most of the crop is sold by October and November. The average monthly prices paid for the fibre in six *jat* and *district* centres are tabulated below.

TABLE LX
Average prices per maund (1937).

(a) *Jat*

Month	Bhairab Bazar		Mymensingh		Akhaura	
	White	Tossa	White	Tossa	White	Tossa
	R. a. p.	R. a. p.	R. a. p.	R. a. p.	R. a. p.	R. a. p.
September	5 11 0	5 15 6	5 5 0	5 11 9	5 7 3	5 15 0
October	5 12 0	6 13 2	5 5 0	6 4 9	5 4 3	6 5 1
November	5 10 0	6 4 3	5 7 0	6 6 3	5 11 0	6 10 3

(b) *District*

Month	Serajganj		Charmugaria		Chaumohani	
	White	Tossa	White	Tossa	White	Tossa
	R. a. p.	R. a. p.	R. a. p.	R. a. p.	R. a. p.	R. a. p.
September	5 7 3	5 8 9	5 8 0	5 8 0	5 6 4	5 9 4
October	5 4 0	6 5 3	5 6 0	5 9 0	5 5 2	5 13 9
November	5 7 6	6 4 3	5 9 0	6 1 0	5 11 2	6 9 4

2. INFLUENCE OF CALCUTTA MARKETS ON PRICES UP COUNTRY.

The prices ruling in the *mofussil* are influenced mainly by the quotations in Calcutta markets for (a) loose jute and (b) jute futures.

351. (a) *Loose jute markets*—The prices quoted in the loose jute markets are those which the mills and *pucca* balers in

Calcutta, have paid or are ready to pay for 'spot' goods. It is, at present, customary to quote the price of Indian Jat Middle grade as the basic rate. The prices of other qualities and grades are quoted in accordance with the premium or discount prevailing for each. These are quotations at which business can be done and deliveries completed in all transactions.

352: (b) *Jute futures market*—Futures prices, on the other hand, reflect mainly the hour to hour sentiments of speculators many of whom have no material interest in the jute trade. Quotations in the futures market are on the basis of the price per bale (400 lb. net) of actual First (Export) grade for delivery at a fixed date, and it is unfortunate that these quotations, which are at times divorced from the basic considerations of supply and demand, influence to so great an extent the price of jute in upcountry districts. This state of affairs, while it may be attributed partly to the practice of forward buying which is a feature of modern trading, appears to be due principally to the fact that the day to day volume of business transacted in the futures markets at varying prices has become so great that it completely dominates the legitimate loose jute and gunny markets. The customary practice of Calcutta merchants, when sending daily price information to their *mofussil* agents, is to include the futures price, and any considerable rise or fall during the day is transmitted upcountry as soon as possible. It is these fluctuations which serve as the principal guide to Indian *kutch*a balers in their daily purchases. European balers, on the other hand, carry on business for the most part in accordance with the movements of genuine supply and demand, and are seldom entirely guided by *fatka* which they do not regard as a true barometer of trade conditions. Most of these balers consider that the jute futures market, as at present constituted, is a distinct menace to legitimate trading and few attempt to use it for 'hedging' operations. Its liability to sudden violent price fluctuations and the subsequent effect which these have on upcountry markets, render the normal business of European balers difficult and at times almost impossible. In recent years, Marwari merchants have played an increasingly important part in the jute baling trade, and have undoubtedly ousted European and Bengali balers to an appreciable extent. Their speculative methods of trading give them decided advantage over their more conservative rivals.

353. It has been shown before,¹ that about 73 per cent. of the total arrivals in Calcutta are delivered to mills and *pucca* balers against forward contracts, which are often made months before the crop is ready for sale. When the marketing season starts, balers buy according to their commitments for each month, always keeping in view the prices at which they have contracted to sell, as well as the possible trend of prices in the future which may enable them profitably to defer their purchases. Again, many *kutchā* balers, particularly those of North Bengal, who trade in the loose jute markets at Cossipore, Hatkhola, etc., consign their goods to Calcutta when futures rates show a rising tendency. It is, therefore, apparent that in spite of the fact that they do not accurately indicate genuine trade conditions, the rates of the Calcutta futures market are relied upon by a large number of merchants engaged in the loose jute trade. When the *fatchā* prices rise rapidly, either because of manipulation by speculators or because of genuine buying interest in the legitimate jute markets, the repercussions are such that it is not uncommon for prices in the *mofussil* to advance quickly to levels above the 'spot' rates in Calcutta with the inevitable result that genuine traders are forced to stop purchases.

3. METHODS ADOPTED.

354. (a) *Villages and hats*—Only one system of price fixation, namely 'estimation,'² is adopted in the first stage of marketing—that is, up to the time the fibre reaches the *kutchā* balers. The intending purchaser—*faria* or *bepari*—inspects the jute offered for sale and determines its grade outturn and re-sale value. The estimation of grade outturn, as described previously, is based entirely on factors constituting the quality of jute.³ As jute is sold at these places in a completely unassorted form, each bundle offered for sale has its own individual value, and the buyer examines all or a sufficient number of bundles before stating his price.

355. (b) *Secondary markets*—At baling centres, conditions of price fixation are in the great majority of cases identical with those prevailing in villages or hats. It is only in respect of fibre offered on the basis of payment after assortment that there is any change. The ruling rate of the day is accepted by the seller

¹ Cf. Ch. IV, Sec. A 5, *supra*.

² Cf. V, Sec. C 4 a (i) *supra*.

³ *Ibid*, Sec. B 1.

in the first instance, and an allowance in respect of excess moisture, if any, is agreed upon after inspection and handling. The jute is then assorted in the seller's presence, and he is paid according to the actual grade outturn. This method of price settlement, however, applies to a relatively small proportion of the crop.¹

356. (c) *Terminal markets*—The conditions in the terminal markets are rather different from those prevailing upcountry. The arrivals at Cossipore and Hatkhola markets are in baled form, the fibre being packed either according to the accepted commercial standards or as *garsat* representing the fair average quality of the district of origin. The arrivals in the Shambazar markets are in drums, the fibre being assorted according to length and colour only. The most common system of price fixation in these markets is termed "settlement under the cloth" which means hidden or undisclosed bidding. If the prospective buyer, after inspecting the jute is interested in it, he approaches the seller. They join hands under a cloth, and by pressing his fingers in various combinations the former indicates the rate at which he is willing to buy. Later, the seller makes his counteroffer in a similar manner. It is only the anna part of the price that is indicated by the movement of fingers, the rupee part being understood by both parties. The prices of most of the transactions are settled in this way. Another method of price fixation is by open bidding, when the buyer declares his price after inspection and the seller either accepts it or makes a counteroffer. Generally, bargains are struck after a good deal of haggling.

C. REVIEW OF LOOSE JUTE PRICES

357. It is not possible to review the Calcutta loose jute prices owing to the changes in the standards of grades which have taken place from time to time during the last decade.² As a record of prices prevailing upcountry over a number of years is not available, a study of the prices actually paid and received in the *mofussil* is rendered impracticable. Attempts were made in the course of the Enquiry to obtain from *kutch*a balers in important secondary markets, the average monthly prices for a few seasons previous to 1937-38 (when the Enquiry was instituted), but it is regrettable to note that these were not forthcoming. Nevertheless, a general idea of the price movements during the

¹ Cf. Ch. V, Sec. C. 4 a (ii), supra.

² Cf. Ch. V, Sec. D 2, supra.

last few years may be obtained from the 'harvest prices' of jute. It may be explained that harvest prices are the median averages of the prices collected over large areas during the harvesting season.¹ Although these cannot be regarded as representative of the general trend of prices during any particular season, they may be sufficiently indicative of the prices prevailing during an important period of the season. The harvest prices of six important jute growing districts of Bengal during the years 1932-33 to 1936-37 are shown in Table LXI over leaf.

It will be noticed that during the first three years 1932-33 to 1934-35, the level of prices was generally low, ranging between Rs. 3-0-0 and Rs. 4-8-0 per maund according to the class of jute. This period coincided with that of restricted production by mills within the Indian Jute Mills Association. From 2nd March 1931, these worked for 40 hours a week with 15 per cent. of their looms sealed and inactive.² It resulted in the accumulation of vast stocks of raw jute in Calcutta and upcountry, which amounted approximately to 5,956,000 bales in June 1932, 6,090,000 in 1933 and 5,955,000 in 1934.³

358. The improvement in prices in 1935-36 may, to a great extent, be attributed to the decrease in the estimated acreage under jute—about 18 per cent. less than the previous year—which was to some extent the result of propaganda undertaken by the Government of Bengal for the voluntary restriction of jute cultivation. The stocks, however, both upcountry and with the Association mills, had not shown any decline and were estimated at about 6,213,000 bales in 1935. But, when the Indian Jute Mills Association modified the restrictions it had previously imposed on the production of jute goods, the position improved. The unsealing of looms, started on 1st November 1934 when 2½ per cent. of the looms were released, was completed on 17th February 1936, and the working hours of 45 per week, in operation since 6th April 1936, were increased to a minimum of 50 hours on 1st July 1936 and finally to 54 on 3rd August 1936.⁴ The increased consumption of raw jute and the reduction in stocks by over a million bales on 30th June 1936, resulted in a rise in harvest prices, the range in 1935-36 being Rs. 3-0-0 to

¹ *Vide* Agricultural Statistics of India.

² *Vide* Report of the Indian Jute Mills Association, 1931.

³ Cf. Ch. I, Sec. B 4. Also Ch. VI, Sec. D, *supra*.

⁴ *Vide* Reports of the Indian Jute Mills Association, 1934-35-36.

TABLE LXI.
Harvest Prices of Jute for Representative Districts.
(per maund)

Districts	1932-33	1933-34	1934-35	1935-36	1936-37	1937-38	1938-39
East Bengal	<i>R. a. p.</i>	<i>R. a. p.</i>	<i>R. a. p.</i>	<i>R. a. p.</i>	<i>R. a. p.</i>	<i>R. a. p.</i>	<i>R. a. p.</i>
Dacca	4 7 0	3 9 0	3 14 0	5 4 0	6 8 0	5 8 0	6 8 0
Faridpur	3 12 0	3 4 0	3 6 0	5 4 0	5 9 0	6 2 0	7 4 0
Tippera	3 0 0	3 0 0	3 0 0	5 0 0	5 0 0	5 8 0	5 8 0
North Bengal							
Rajshahi	3 9 0	3 6 0	4 0 0	4 8 0	5 8 0	5 8 0	4 15 0
Rangpur	3 0 0	3 4 0	3 0 0	3 0 0	5 0 0	5 8 0	7 0 0
Bogra	3 4 0	3 4 0	3 4 0	4 0 0	5 0 0	5 0 0	0 0
West Bengal							
24 Parganas	3 12 0	4 0 0	3 8 0	5 0 0	4 0 0	5 0 0	5 8 0
Hooghly	4 2 0	4 8 0	4 0 0	6 0 0	6 0 0	5 8 0	5 8 0

Notes—(1) Time of harvesting East Bengal — Mid June to mid August.

North Bengal — Mid July to early September.

West Bengal — Mid August to September.

(2) Harvest prices are prices of crops at harvest time. The district figures are medians of several prices quoted from different centres in the district.

Source—Season and Crop Reports of Bengal (1932-33 to 1938-39).

TABLE LXII
Average Monthly Prices of White Jute in Upcountry Markets—1937-38†
 (all quotations are per standard maund)

Name of baling station	July	August	September	October	November	December	January	February	March	April	May	June
	<i>R. a. p.</i>	<i>R. a. p.</i>	<i>R. a. p.</i>	<i>R. a. p.</i>	<i>R. a. p.</i>	<i>R. a. p.</i>	<i>R. a. p.</i>	<i>R. a. p.</i>	<i>R. a. p.</i>	<i>R. a. p.</i>	<i>R. a. p.</i>	<i>R. a. p.</i>
Netrakona (Mymensingh)	6 9 0	5 13 0	5 10 0	5 11 0	5 12 0	5 4 0	5 2 0	5 1 0	5 0 0	...	...	...
Mymensingh (Mymensingh)	5 10 0	5 6 0	5 5 0	5 5 0	5 7 0	5 0 0	4 15 0	4 13 0	4 14 0	...	...	...
Bhairab Bazar (Mymensingh)	5 10 0	5 11 0	5 11 0	5 12 0	5 10 0	5 4 0	5 1 0	5 1 0	5 0 0	...	...	...
Ashuganj (Tippera)	5 15 0	5 14 0	5 12 0	5 13 0	5 12 0	5 2 0	5 0 0	5 1 0	5 2 0	4 12 0	4 11 0	...
Tarpassa (Dacca)	5 15 0	5 14 0	5 7 0	5 6 0	5 7 0	5 5 0	4 15 0	5 1 0	5 0 0	4 12 0	4 14 0	4 6 0
Baira (Dacca)	6 0 0	5 13 0	5 8 0	5 8 0	5 5 0	5 4 0	5 3 0	5 2 0	5 3 0	5 0 0	4 12 0	...
Gaibandha (Rangpur)	...	5 5 0	5 5 0	5 0 0	5 2 0	4 12 0	4 7 0	4 4 0	4 2 0	4 3 0	...	...
Jalpaiguri (Jalpaiguri)	...	...	5 10 0	5 10 0	5 8 0	4 15 0	4 12 0	4 12 0	4 13 0	...	...	...
Japsa (Faridpur)	...	5 8 0	5 12 0	5 8 0	5 8 0	5 4 0	4 12 0	4 12 0	4 8 0	4 8 0	4 0 0	...
Gaurnadi Bakarganj)	...	4 10 0	4 8 0	4 14 0	4 8 0	4 0 0	4 1 0	...	...	...	...	...
Munshiganj (Nadia) §	..	...	4 8 0	5 4 0	5 8 0	5 8 0	5 0 0	...	...	...	...	...
Haibergaon (Nowgong)	4 4 0	4 6 0	4 8 0	4 6 0	4 6 0	...	..	...	...	...	...	...
Araria (Purnea)	...	5 5 0	5 3 0	5 0 0	4 8 0	4 4 0	4 7 0	4 6 0	4 6 0	...	...	...

† The above prices were for unassorted fibre.

§ Tossa Jute.

Source—Marketing Enquiry.

Rs. 6-0-0 and in 1936-37 Rs. 4-0-0 to 6-8-0 per md. This was so in spite of the fact that the area under jute had increased by about 32 per cent. (2,181,000 acres in 1935-36 and 2,889,000 acres in 1936-37).

359. It is possible as a result of the Enquiry, to show the monthly variations in the prices at upcountry markets during season 1937-38. The position was favourable for a rise in prices. The stocks had diminished and were estimated on 30th June 1937, at 3,922,000 bales with the Association mills and upcountry balers, and the estimated area under jute did not show any change. Moreover, as a result of the withdrawal of all restrictions on working hours from 1st March 1937, most of the mills were working for 54 hours a week and a few of the Association and outside mills for 108 and even 132 hours.¹

360. A study of Table LXII opposite, will show that prices were comparatively high early in the season, ranging between Rs. 4-4-0 per md. at Haibergaon (Nowgong) and Rs. 6-9-0 per md. at Netrakona (Mymensingh) in the month of July 1937. Growing conditions had been satisfactory, and the outturn was estimated by the trade at about 10,000,000 to 10,500,000 bales; the marketable surplus, however, eventually amounted to 11,532,000 bales.² But, it would appear that the policy of buyers during 1937-38 was, generally speaking, to purchase their requirements in a manner which would not cause severe fluctuations in prices at any period during the season. The prices during the busiest marketing months, August to November, though lower than the opening rates, were on the whole steady, ranging between Rs. 5-5-0 to 5-13-0 per maund in East Bengal, Rs. 5-0-0 to 5-10-0 in North Bengal, Rs. 4-8-0 to 5-5-0 in Bihar and Rs. 4-4-0 to 4-6-0 in Assam. It is significant that although the working arrangements of the mills remained unchanged, after November the prices tended to decline as the season progressed, and were at the close of the season about Rs. 1-4-0 to 1-8-0 per maund below the opening rates.

D. PRICES FOR OLD AND NEW CROP.

361. The forward buying of new crop by speculators and mills is a regular feature of the jute trade. This type of business is done during the months of January to May and often

¹ *Vide* Report of the Indian Jute Mills Association, 1937.

² Calculated total production, 11,895,000 bales less 363,000 bales retained for domestic consumption. *Vide* Ch. I, Sec. G 2, *supra*.

assumes considerable proportions. It has an appeal to the speculator as so many influences work towards price fluctuations. Amongst these the weather comes first. Insufficient rain at the time of sowing, droughts in March, April and May or the early flooding of rivers causing damage to the immature plants, have each an effect on the price of new crop. There is seldom a year which can be considered ideal for jute growing in all areas. The progress of the crop is studied carefully and the weekly reports issued by several large jute merchants are eagerly studied. The market most quickly affected by these reports is naturally the futures; heavy clouds or an unexpected shower of rain in one area or another are sufficient to cause erratic movements in *fata* rates. Export balers seldom enter the market for the new crop before April or May and then only after they have received orders from overseas consumers for delivery in July or August. A few of them, as a speculation, may buy earlier in the hope of a rise but such transactions are, on the whole, small. The *kutch* balers, however, are generally willing to sell new crop from early in the calendar year. They base the sales on such factors as the prospects of the crop, the stocks at Calcutta and upcountry, the potential demand during the ensuing season, etc., and quote rates which would enable them to cover their commitments profitably before delivery is due. At the beginning of the year, new jute is frequently quoted at a slightly lower price than the old. As the months pass, and in the light of weather conditions, it is possible to estimate the likely total production, as well as the quality, of the new crop, and the prices fluctuate accordingly. The volume of transactions involving new crop varies from year to year; no records however, are available and it is not possible to estimate the annual turnover.

E. MARKET INTELLIGENCE

1. GENERAL.

362. Lack of reliable sources of price information places the growers under a severe handicap in marketing their produce. Living as they do in thousands of small villages, situated in areas where communications are difficult and with no regular postal service, they are almost entirely dependent upon the itinerant dealer for market news. Conditions are somewhat better in *hats* where, owing to the presence of a number of *beparis*, the prices offered are more in line with the latest quotations of the baling

centres, and growers have an opportunity of comparing rates. But it must be realized that in all cases it is the potential buyer who is the source of information, and that in the remote areas the small seller cannot obtain market news in any other way. Further, it is well known that *beparis* are guilty of underquoting the market whenever they can do so with profit to themselves. Sometimes, even the peripatetic dealers remain out of touch with secondary markets which have direct contact with Calcutta, and so run considerable risk of loss owing to lack of market information. The majority of *beparis*, however, protect themselves to a large extent by working in groups of three or four and by maintaining contracts with the markets where they usually sell. The difficulty of communications makes the transmission of any reliable price information a comparatively slow business, and often it takes three days for the rates prevailing in baling centres to reach villages in the interior. If there is a sudden rise during that time, the first person in the countryside to hear the news is the *bepari*, and it is more than doubtful if he conveys that information to the grower at once and offers a higher price. Conversely, should the market price fall, he will immediately spread the news and offer a lower rate. It is impossible even to hazard a guess at the loss caused to growers by the lack of reliable price intelligence.

363. *Kutch*a balers maintain close touch with Calcutta markets. The smaller merchants, established at stations with direct railway communications or at points where there are good postal facilities, use the post for receiving ordinary market intelligence. Their agents in Calcutta generally send the daily quotations by letter but, when the market is agitated or circumstances demand quick contact, they employ the telegraph. The bigger firms, however, use the telegraph system daily, and normally receive both the opening and closing rates. Where available, they employ the long distance telephone as well.

364. Contact by telegraph between Calcutta and the principal secondary markets takes a few hours only, and the latter can be kept informed of the hourly fluctuations in prices at the consuming centres. In primary markets, where no telegraph offices exist, the merchants have to depend for price information upon baling centres and such information may reach them only after 24 hours have elapsed. The time lag between Calcutta and the different marketing points upcountry may be summarised as below.

To secondary and primary markets where there are telegraph offices ...	4 hours
To markets where postal facilities exist	2½ days
To remote villages where there are no postal facilities	2½ to 4 days

2. SOURCES OF INFORMATION.

365. The means available for the dissemination of market information are the following—

- (a) Daily newspapers,
- (b) Trade publications,
- (c) Government publications,
- (d) Post, telegraph and telephone, and
- (e) Wireless receiving sets.

(a) *Daily newspapers*—The daily press is an important medium for disseminating price information. In Calcutta, newspapers are published in English, Bengali, Urdu and Hindi and are circulated practically all over Bengal, Bihar and Assam. The daily market reports include the ruling prices of loose jute together with rates at which business has been done, as well as notes on the trend of the Calcutta markets and the fluctuations in jute futures prices. Though the daily press is an important medium for disseminating price information, newspaper reports are of little benefit to the average illiterate grower unless some more enlightened neighbour who subscribes to a paper provides him with the news. Moreover, the prices published are those actually ruling in the Calcutta market, which include the various handling and transportation expenses incurred between the secondary and terminal markets with which a grower has no concern and knows nothing about. Thus, from his point of view, the only use which lies in these quotations is the extent to which they may indicate the trend of prices.

366. (b) *Trade publications*—There are a few weekly and monthly journals which are devoted entirely to the publication of commercial news and statistics. The prominent weekly journals are 'Capital,' 'Commerce' and 'Indian Finance,' which include, as a permanent feature, a review of the jute market and discuss the position of the jute trade in general. Published in English, they are of no use to growers and small merchants in the interior of the country. In addition, there are certain firms in Calcutta (usually brokers) which supply to commercial houses, either free

or for a small consideration, the opening prices of raw and manufactured jute and the figures of arrivals and exports.

367. (c) *Government publications*—The various government publications relating to commercial statistics are more of academic than of practical interest as the delay in their publication divests them of all real value. The weekly 'Indian Trade Journal' is an exception as it is available to the public within a week of the expiry of the period reviewed. It contains, among other items, statistics relating to weekly arrivals of loose jute, exports of baled and manufacture jute, market quotations of specific grades and freight rates to foreign ports, etc. Jute prices are mentioned in other Government of India publications as well, such as the "Monthly Survey of Business Conditions in India", "Monthly Statement of Wholesale Prices of Certain Selected Articles at Various Centres in India" and "Quarterly Statement of Wholesale Prices of Certain Staple Articles of Trade at Selected Stations in India". Lastly, the provincial Departments of Agriculture publish annually harvest prices of staple commodities in the "Season and Crop Reports", which information is ultimately included in the "Annual Agricultural Statistics of India" published by the Government of India.

368. (d) *Post and telegraph*—The post and telegraph are the most dependable means of transmitting market information, and the extent of their employment by those engaged in the raw jute trade has been indicated previously. Unfortunately, however, post and telegraph offices are established at long distances. The postal authorities strive to extend their services, but they are faced with many difficulties. Owing to widespread illiteracy and the poor condition of the people as a whole, letter writing—particularly in the rural areas—has not yet become a habit, and telegraphic communication is altogether an exceptional event. Moreover, transportation, especially in East Bengal, during the monsoon months is so tedious that many days are sometimes wasted in reaching villages situated far in the interior. These places are not served by the telegraph, and telegrams must be first transmitted by wire to the nearest telegraph office and thence despatched by ordinary post, which takes as long to arrive as the letter. Under the circumstances, therefore, it is not surprising that the telegraph is employed rarely by persons carrying on business at *hats* and primary markets.

369. (e) *Wireless Transmission*—The employment of wireless as a means of disseminating price information in the countryside is confined to certain areas in the Central Provinces and the Punjab, and has not been adopted in any of the jute growing provinces. The advantages of transmitting market news by this means is recognized, but the high initial cost of the receiving sets and the heavy maintenance charges are impediments to its general adoption in the rural areas.

F. PRICE SPREAD AT VARIOUS MARKETING STAGES

1. GENERAL.

370. The difficulties involved in the determination of actual price differences between two successive marketing points have been described earlier in the chapter. It is, nevertheless, possible to arrive at some conclusions regarding the respective proportions of the consumer's price appropriated by middlemen and absorbed by expenses incurred on marketing at all stages. As already indicated, the prices paid to growers are based on the buyers' estimation of the grade outturn of each lot of jute. Thus, given the latter information, it should be easy to calculate the village price of a particular grade. During the Enquiry, the details of average monthly assortments made by certain European balers in a few important secondary markets were collected,¹ on the basis of which a price structure has been prepared.²

371. Fibre is sold in one of the following ways—(a) direct by grower to *kutchā* baler or his agent, (b) by a grower to a *bepari* who sells to a *kutchā* baler, (c) by grower to *faria* who sells in *hats* to a *bepari* who in his turn sells to the *kutchā* baler, or (d) by grower to *faria* who sells to a *bepari* in *hat*, the latter selling to an *aratdar* who in his turn sells to the *kutchā* baler. In the first case, the fibre does not take long to reach the *kutchā* balers, but with the addition of each intermediary the time lag increases which, with the intervention of *aratdars*, may extend to a number of weeks. In order that the price structure may embrace all types of transactions, it was considered desirable to base it on the average monthly prices and not on the day to day prices.

¹ Cf. Table LVI supra.

² Indian balers do not generally record the figures of grade outturn in as detailed a manner as the Europeans, and were therefore unable to supply them in the form required.

2. METHOD OF PREPARING PRICE STRUCTURE.

372. (a) *Markets selected*—The following six markets, being representative of the various classes of jute, were selected for the purpose of price structure.

<i>Market</i>	<i>District</i>	<i>Class of jute</i>
1. Ashuganj	Tippera	Good Jat
2. Netrakona	Mymensingh	Jat
3. Tarpassa	Dacca	Good district
4. Nakalia	Pabna	District.
5. Charmugaria	Faridpur	District & dowrah
6. Domar	Rangpur	North Bengal

373. (b) *Prices for unassorted and graded jute*—The average of the prices known to have been actually paid to growers at their holdings during the months selected for this purpose have been taken as the starting point. To these amounts have been added the various expenses incurred by *beparis* in transporting and selling the fibre at the baling centres under review. Up to this point all fibre is marketed in an entirely unassorted condition. *Kutch*a balers' expenses on account of selecting into grades, baling, transporting to Calcutta terminals, together with the charges incurred for establishment, maintenance of premises and Calcutta offices or agencies were later worked out. To enable these to be added to a price with a common basis, the actual grade outturn for each station was obtained and from these an average price was calculated for the graded fibre. Thus, the price included in the structure is the average price based on grade outturn and not the actual Calcutta loose jute quotation.

374. (c) *Expenses involved*—The expenditure incurred on the movement of jute may be grouped under the following main heads:

- (i) market allowances and cash value of deductions,¹
- (ii) handling, including standing charges of *kutch*a balers,² and
- (iii) transportation.³

All these items have been fully discussed in the preceding chapters and need not be repeated here. Attention should, however, be drawn to the fact that the various items of the expenditure incurred on account of marketing fall under two categories.

¹ Cf. Ch. III, Sec. E 1. *supra*.

² Cf. Ch. IV, Sec. A 5. *supra*.

³ *Ibid* Sec. C.

Firstly, there are those which relate to the performance of different functions, e.g. handling and transport costs, *zamindar's* dues, etc. The second type comprises the charges for which no service is rendered, and which amount to impositions on growers. This class includes the customary trade allowances, such as *kabari*, *britti*, *namuna*, *bachhat*, etc. Other items which affect the growers' interests adversely are the under estimation of the graded value of sellers' jute by buyers and the reported fraudulent weighings at all stages of marketing either by the manipulation of scales or by means of loaded weights.

3. PRICE STRUCTURE.

375. The price structure embraces a review of the six markets mentioned above, over a period of three of the busiest months of the 1937-38 jute season, viz. September October and November.¹ It may be explained that the term "Calcutta landed price" includes the average price obtained by growers as well as the various expenses incurred in the course of the marketing of jute. The difference between the average Calcutta price (calculated on the basis of the monthly grade outturn of the market concerned) and the landed price represents the total margin available for the various intermediaries. The table opposite, which is an extract from the main price structure, and the diagram facing it, provide a comparison of such prices during the month of October 1937. The figures in parenthesis show the different percentages of the Calcutta landed price received by growers and absorbed by such items of expenditure as market allowances, handling (including the standing charges incurred by *kutchi* baler in upcountry markets), transport from interior to Calcutta and overhead expenses at the latter market.

4. SUMMARY.

376. It will be noticed from the table, that higher prices were paid to growers at Ashuganj than at Netrakona, though both are *jat* centres. This was due to the fact that sales in upcountry markets are based on the grade outturn of the sellers' jute. A reference to an earlier table will show that the Ashuganj jute yields a greater proportion of the higher grades.² The same applies to Tarpassa and Nakalia markets. Taking all the markets into consideration, the prices paid to growers ranged between

¹ Cf. Appendix I, *infra*.

² Table LVI, *supra*.

PRICE STRUCTURE.

<p>PRICE PAID TO CULTIVATORS</p> <p>MARKET ALLOWANCES</p> <p>HANDLING EXPENSES & STANDING CHARGES AT BALING CENTRE</p>	<p>☒</p> <p>☐</p> <p>▨</p>	<p>TRANSPORT EXPENSES FROM INTERIOR TO CALCUTTA</p> <p>STANDING CHARGES IN CALCUTTA</p> <p>AVERAGE PRICE IN CALCUTTA</p>	<p>▨</p> <p>☐</p> <p>☒</p>
--	----------------------------	--	----------------------------

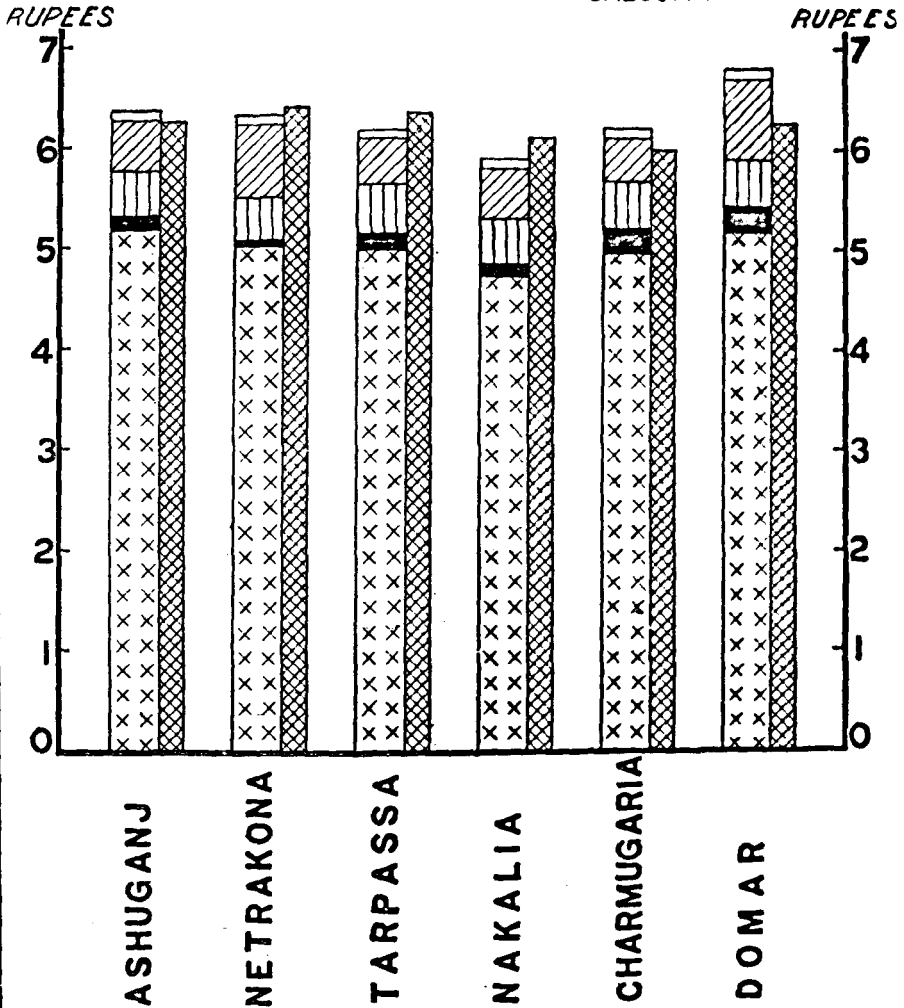


TABLE LXIII
Price Structure—October 1937.
(per maund)†

Particulars	Ashuganj	Netrakona	Tarpassa	Nakalia	Charmugaria	Domar
1. Price paid to cultivators	5 2 10 (82.0)	5 0 7 (80.4)	5 0 0 (82.0)	4 11 9 (81.5)	4 15 5 (80.7)	5 2 8 (76.4)
2. Transport expenses from interior to baling centre } 3. Market allowances } 4. Handling expenses at village and baling centre ** } 5. Standing charges at baling centre } 6. Net freight to Calcutta } 7. Standing charges at Calcutta }	0 1 9 (1.7) 0 2 0 (2.0) 0 1 5 (1.4) 0 4 0 (4.0) 0 7 0 (6.9) 0 2 0 (2.0)	0 1 9 (1.7) 0 0 10 (0.8) 0 2 0 (2.0) 0 4 0 (4.0) 0 9 1 (9.1) 0 2 0 (2.0)	0 1 9 (1.8) 0 2 9 (2.8) 0 1 4 (1.4) 0 4 0 (4.1) 0 5 9 (5.9) 0 2 0 (2.0)	0 1 9 (1.9) 0 2 0 (2.2) 0 1 3 (1.3) 0 4 0 (4.3) 0 6 3 (6.7) 0 2 0 (2.1)	0 1 9 (1.5) 0 4 0 (4.1) 0 1 9 (1.8) 0 4 0 (4.0) 0 5 6 (5.6) 0 2 0 (2.0)	0 2 6 (2.3) 0 4 4 (4.0) 0 1 7 (1.5) 0 4 0 (3.7) 0 11 2 (10.3) 0 2 0 (1.8)
8. Calcutta landed price.	6 5 0 (100)	6 4 3 (100)	6 1 7 (100)	5 13 0 (100)	6 2 5 (100)	6 12 3 (100)
9. Average loose jute price in Calcutta §	6 4 5	6 6 9	6 5 11	6 2 0	6 0 4	6 4 5
10. Margin available for various intermediaries	(-) 0 0 7	(+) 0 2 6	(+) 0 4 4	(+) 0 5 0	(-) 0 2 1	(-) 0 7 10

† To ensure uniformity all calculations have been based on the standard unit of weight of 80 tolas per seer.

** Expenses at baling centre include unloading, selecting, baling and exporting.

§ These are average calculated prices of jute based on the grade outturns shown in Table LVI supra for Ashuganj, Tarpassa, Charmugaria and Nakalia. The grade outturns for Netrakona were 4's—16%, R's.—68% and T.J.—16%, and for Domar 3's—5%, 4's—35%, R's.—35% and T.J.—25%.

76.4 per cent. (Domar) and 82 per cent. (Ashuganj and Tarpassa) of the Calcutta landed price. It may be pointed out that in years of high prices, the percentage received by the growers is likely to be higher owing to the fact that the various expenses are more or less stationary. It is interesting to note, however, that in India the respective producers of wheat and linseed receive 58.6 to 83.2 per cent.¹ and 67.7 to 91.2 per cent.² of the consumers' price.

377. The trade allowances included in the preceding table vary from 10 pies per maund at NetraKona to Re. 0-4-4 at Domar. When calculated on the basis of the individual turnover of the markets under review, these amount to Re. 0-3-1 per md., or 3 per cent. of the average Calcutta landed price of jute. On an all-India crop of about 10 million bales (or 50 million maunds) of jute, the total amount given away as market allowances would, therefore, reach the high figure of Rs. 96,35,000 per year.

378. Again, the expenses incurred on account of the actual handling operations upcountry and the costs of transport from villages to Calcutta, as shown in the price structure, vary from Re. 0-8-8 per md. at Tarpassa to Re. 0-15-3 at Domar, which amount to 9.1 and 14.1 per cent. of the respective Calcutta landed price. The average expenditure on these items, calculated on the basis of the turnover of jute in each of the six markets, works out at 10.1 per cent. of the Calcutta landed price. Lastly, the standing charges of European *kutch*a balers, both in upcountry markets and Calcutta, amount to Re. 0-6-0 per md., or 6.0 per cent. of the average Calcutta landed price of jute. Thus, the average landed cost of jute in October 1937, on the basis of the prices recorded in the preceding table, was Rs. 6-3-5 per maund, being composed of the following items—

1. Average price received by growers	Rs. 5 0 3	80.9%	of the Calcutta landed price				
2. Market allowances	Re. 0 3 1	3.0%		"	"	"	"
3. Handling and transportation	" 0 10 1	10.1	"	"	"	"	"
4. Standing charges of European <i>kutch</i> a balers	" 0 6 0	6.0	"	"	"	"	"
5. Total expenses	Rs. 1 3 2	19.1%		"	"	"	"
6. Calcutta landed price	Rs. 6 3 5	(100)		"	"	"	"

¹ Report on the Marketing of Wheat (1937), op cit., p 440.

² Report on the Marketing of Linseed (1938), p. 323.

379. It has not been found possible to take into consideration the probable loss suffered by growers on account of the underestimation of the grade outturn of their jute and the fraudulent weighing by buyers, reference to which has already been made.¹ These are debatable points. The growers were emphatic that, having no knowledge of grading, they sold their jute in an unassorted form and were, therefore, at a great disadvantage in the matter of price fixation. The *kutchā* balers, on the other hand, maintained that growers could estimate accurately the graded value of their jute and seldom accepted less than the proper price. It is of interest to note that the allegations made by sellers regarding overweighing at all points, particularly in North Bengal, Bihar and Assam, were vehemently denied by buyers, both *beparis* and *kutchā* balers.

380. As mentioned before, the difference between the calculated average loose jute and landed prices in Calcutta represents the margin available for the various intermediaries. It will be noticed in Appendix L, that out of the eighteen cases reviewed, eleven register a gain and seven a loss. The largest profit is noticeable at Charmugaria in September 1937, being Re. 0-10-5 per md., while the lowest margin is Re. 0-1-7 at Ashuganj in the same month. Again, the greatest loss is Re. 0-9-5 at Charmugaria in November, the smallest one being 7 pies per md. at Ashuganj in the month of October. These 'gains' and 'losses' should not be treated as indicating a general tendency as various forces tend to minimise the abnormal features. For instance, the grade outturn for each market, on which the present price structure is based, being in respect of an European *kutchā* baler, may not represent the normal or average grade outturn of all the balers in the particular market, for European balers as a rule pack strictly in conformity to the specified standards. For example, from the same consignment of jute, European balers may obtain 10 per cent. Tops, 40 per cent. Middles and 50 per cent. Bottoms, whereas an Indian baler's figures may be 15,45 and 40 for the respective grades. Evidently, the case of a single baler cannot be applied to the market as a whole, nor can any tendency be established on that basis. Moreover, balers take the usual risks common to the business of this type, and are not seriously perturbed by losses suffered on individual transactions or in certain months,

¹ See Sec. F 2 (c) of this chapter.

but judge the success or otherwise of a season by its net result.

381. Other factors also deserve mention in this connection. Firstly, many balers finding the Calcutta quotations unfavourable, would rather store the fibre for better prices than sell it at a loss or at a very small profit. Secondly, there are balers who are not much concerned with the prices ruling in Calcutta at the time of their purchases in secondary markets. They may be fulfilling a forward contract and thus may not be affected by the prevailing Calcutta prices. Thirdly, in the case of Indian balers, many services, for which expenses have been included in the price structure, are actually performed by the merchants themselves or by their relations. For example, the baler or his relations may act in some capacity in the office and may not draw a salary, or alternatively be paid at a lower rate than is budgetted for. Again, the baling agency may not be maintained at the same level of efficiency as in the case of European balers, so that costs would be lower. Thus, the savings on these items will actually increase the margin of profit or reduce the loss to some extent. It may be concluded, therefore, that while the price structure gives a fair indication of the prices received by growers and of the various kinds of expenses incurred in the marketing and transport of fibre, it should not be regarded as the final index of the profits made by the different intermediaries and *kutchā* balers established upcountry. Apart from the prices which a baler may pay or receive for his jute, the success or otherwise of his business is also influenced by the handling, transportation and standing charges incurred by him. Therefore, it is in his interest to reduce expenses to the lowest limit practicable. According to *kutchā* balers, it is not possible for them to reduce to any appreciable extent the expenses incurred on the actual performance of the handling operations. The many problems involved in the transportation of jute have been discussed earlier,¹ and it appears that there is little prospect of any reduction in steamer or railway freights, at least for the time being.

382. The standing charges, however, amount to 7.5 per cent. of the Calcutta landed price, i.e. 37.5 per cent. of the total expenses involved in the marketing of jute. Since these affect the efficient working of their firms, the *kutchā* balers alone are in a position to determine whether it is possible to reduce the costs. As baling centres are the ultimate markets for growers,

¹ Cf. Ch IV, Sec. B 2 & 3, *supra*.

the expenses of merchants established there assume special significance. This is particularly so as the producers' share of the Calcutta landed price is affected by an increase or decrease in the expenditure incurred in the course of the transition of raw jute from field to factory. A number of balers, however, declared during the Enquiry that, in many cases, growers received the maximum prices which the balers could pay, and that often there was no margin between the village and the secondary market prices. This may be true to some extent, for example, in the case of fibre which permits of treatment with water. In villages and *hats*, *beparis* may pay for dry fibre prices equal to those ruling at baling centres, but they ensure for themselves a margin of profit by adding water.¹ Again, on a rising market, the speculative buyers may pay high prices in the interior. The exceptionally high prices paid to growers in these circumstances would, therefore, be an abnormal feature of the trade, and cannot be cited to prove that the sellers are always paid liberal prices for their jute.

¹ Cf. Ch. V, Sec. C 3, *supra*.

CHAPTER VIII

WEIGHTS

A. SIZE AND NATURE OF WEIGHTS

383. Two types of weights are found in the loose jute trade—stone and cast iron. The former are in fairly common use in villages and, occasionally, *hats*, but they are rapidly giving way to the latter which are less liable to deteriorate through usage. Weights of many denominations are current, depending upon the customary sizes of bundles and units of sale prevailing in different localities. Thus, in villages 1, 5, 10 and 20 srs. weights are more popular, whilst in *hats*, primary markets and baling centres all denominations up to one maund are in general use.

B. STANDARDS OF WEIGHING

1. GENERAL.

384. There is a great diversity in the standards or units of weight in force throughout the jute growing provinces. The local units vary within small areas and, in addition, various commodities are sometimes sold within the same market on different weight standards. This custom is very confusing to the seller who comes from some remote village in the interior. When the standard of weighment of a village differs from that in use in the neighbouring market, growers selling in the latter have to calculate the price offered there in terms of their village weight before they can compare the prices. They may ultimately succeed in working out such problems correctly but the process is, in most cases, difficult for them and tends to discourage the growers from selling in markets which have a different standard of weight. Moreover, it leaves room for swindling on the part of the buyers' weighmen. Sellers' difficulties are further increased by the practice prevalent in some markets of weighing on one standard and making payment on another.¹ Under such a system it is not easy for sellers to check the accuracy of calculations made by buyers.

2. LOCAL PRACTICES.

385. During the Enquiry, it was found that in East Bengal,

¹ See Sec. B 3 of this chapter.

the current standards of weight were 60, 80, 82 and $82^{10}/_{16}$ —in some areas even $84 \frac{1}{16}$, 85, 86, $87^{10}/_{16}$ or 88, 105, 110 and 120 tolas—to a seer. In West Bengal, one seer was found to equal 60, 80, 82, $82^{10}/_{16}$, 84, 101 or 105 tolas; and, in North Bengal, one seer was equivalent to 60, 80, 84, $84^{10}/_{16}$, 85, 87, 90, 96, or 120 tolas. In the eastern part of Jalpaiguri district, an entirely different unit of weight prevails, locally called *tungi*. It is equivalent to 3 mds. at 60 tolas per seer, or 2 mds. 10 srs. at 80 tolas. But, in actual practice, it is calculated in different markets at units varying from 2 mds. 10 srs. to 2 mds. 22 srs. at 80 tolas. The persons interviewed could not offer any satisfactory explanation for the lack of uniformity in the local customs. However, as no allowances in kind are levied there, it may be presumed that the excess over 2 mds. 10 srs. is taken in lieu of *dhalta*, *bachhat*, etc., In Bihar, the seer was found to be equivalent to 80, 88, 96, 101, 105 or 110 tolas; and in Assam 80, 84, 86, 88 or 90 tolas made one seer. In Orissa, however, the standards of weight were only two, 82 and 84 tolas to a seer. The table on the next page gives a clear idea of the extent of the diversity in the standards of weighing prevalent in the representative secondary markets of the important jute districts. All railways, as well as the merchants established at the terminal markets of Calcutta, use the official maund of 40 seers of 80 tolas (or 82.2857 lb.), sometimes called the "Bengal maund". The same standard with its smaller denominations, is used by *kutch*a and *pucca* balers when packing jute. According to this standard

180 grains Troy	= 1 tola
(weight of a rupee)	(or .4114 oz.)
80 tolas	= 1 seer
	(or 2.057 lb.)
40 seers	= 1 maund
	(or 82.2857 lb.)

3. WEIGHING ON ONE STANDARD AND PAYMENT ON ANOTHER.

386. It is customary in a number of baling centres for prices to be settled on the basis of the local standards and for the actual weighing to be done at 80 tolas. The total weight of jute bought is then converted into the local standard and payment made accordingly. Table LXV on page 225, illustrates the systems prevailing in some of the secondary markets.

TABLE LXIV.
Standards of Weights in Various Markets
(Tolas per seer)¹

District	Market	Unit of weight
Bengal		
Mymensingh	{ Kishoreganj Sarisabari Netrakona Ramamritaganj Narayanganj	80 84½ 85½ 87½ 80
Dacca	{ Tarpassa Narsingdi Rangpur Gaibandha Lalmonirhat	82 88 90 90 98
Tipperra	{ Akhaura Chandpur Ashuganj	80 82½ 88
Faridpur	{ Rajbari Gosala	90 84½
Bogra	{ Jaipurhat Sonatola	60 84½
Malda	{ Shamsi Harischandrapur	101 105
Dinajpur	{ Thakurgaon Raiganj	60 120
24 Parganas	{ Everywhere Sheoraphuli	80 80
Hooghly	{ Pandua Ektarpur	84 86
Jessore	{ Magura Lalgola	60 82½
Bihar		
Purnea	{ Forbesganj Kishanganj Barsol	80 96 110
Assam		
Sylhet	{ Madhabpur Fenchuganj Goalpara	86 88 80
Goalpara	{ Dhubri Sapatgram	84½ 86
Kamrup	{ Barpeta Road Haibergaon	86 86
Orissa		
Cuttack	{ Kenduapatna Danpur Salehpur	82 84

¹ In all these provinces one maund is equivalent to 40 seers in the local system of weight.

Source—Marketing Enquiry.

TABLE LXV
Systems of Weighing and Payment in some Markets.
 (tolas per seer)

Markets	Local unit of weight	Weighment at	Payment at
Narayanganj	84½	80	84½
Ashuganj	88	80	88
Baira	84½	80	84½
Chandpur	82½	80	82½
Matlabbar	83	80	83
Narsingdi	88	80	88
Nayergaon	83½	80	83½
Belaba	88	80	88
Haibergaon	86	80	86
Dhubri	84½	80	84½
Gauhati	87	80	87

Source—Marketing Enquiry.

Two alternative methods of conversion are adopted, one being by 'deduction' and the other by 'addition.' The following examples illustrate these methods.

387. Suppose the price is settled and payment made on the basis of 88 tolas per seer. By the first method, 1 md. of fibre will be weighed at the rate of 80 tolas, then 4 srs. $\frac{(40 \times 8)}{80}$ will be deducted therefrom. Thus, payment is made for 36 seers of seller's fibre but at the price settled on the basis of the local weight of 88 tolas. Similarly, in order to sell 100 mds. of fibre at 88 tolas a seer, the grower has actually to give 111 mds. 4 srs. 7 ch. calculated on the basis of 80 tolas to a seer.

Example.

To sell 36 srs. (at 88 tolas) one has to part with 40 srs. (at 80 tolas)	
" " 100 md. " " " " " $\frac{40 \times 100 \times 40}{36}$ srs.	
	= $\frac{160,000}{36 \times 40}$ mds.
	= <u>111 mds. 4 srs. 7 ch.</u>

According to the second method, 1 md. of jute is weighed on the basis of 80 tolas and, in addition, extra 4 srs. (on the same basis) are taken so as to secure the conversion of the standard of weighing into that of 88 tolas to a seer; but payment is made for only one maund of fibre. Thus, in order to sell 100 mds. of jute at 88 tolas per seer, one has to deliver 110 mds. calculated on the 80 tolas basis.

Example.

To sell 40 srs. (at 88 tolas) one has to part with 44 srs. (at 80 tolas).	
" " 100 mds. " " " " " " " "	$\frac{44 \times 100 \times 40}{40}$ srs.
	<u>176,000</u> mds.
	$\frac{176,000}{40 \times 40}$
	<u>110 mds.</u>

Consequently, a person disposing of 100 mds. (at 88 tolas per sr.) stands to lose 1 md. 4 srs. 7 ch. (at 80 tolas basis) when selling in markets where weighing is done at 88 tolas to 1 sr. and where deductions are made according to the first method. This deduction is locally called "weight allowance" and, as can be seen, is a direct imposition on sellers. In places where prices are settled on the local standard and all weighing is done on that basis, conversion is obviously not necessary.

C. TYPES OF SCALES EMPLOYED

388. Almost all types of scales—hand, beam and platform—as well as hand spring balances and weigh-bridges are employed in the jute trade, the adoption of one or the other depending upon the individual merchant's requirements. In villages and *hats*, where small quantities of jute are handled at a time, hand scales are almost universally employed, while in the primary markets beam scales are frequently used by the bigger *farias* and *beparis*. A set of hand scales consists of a round wooden bar about two feet long, tapering at both ends, from which flat round pans about eighteen inches in diameter are suspended by strings. These pans are made of bamboo, cane or iron. Ordinarily, any quantity up to 10 srs. may be weighed at a time on these scales. In the Nowgong district and parts of Goalpara (Assam), and in certain sections of Bengal and Bihar, spring balances were found to be commonly used by *farias* and *beparis* in villages, *hats* and primary markets. This type of scale is simply operated and comprises a tempered spring enclosed within a metal case, on the outside of which are marked the various degrees of weight graduation. A hook is attached to the end of the spring and from this bundles of jute are suspended during weighment. A hand spring balance can ordinarily weigh 5 to 6 srs. at a time.

389. In secondary markets beam scales are invariably used. These are of two types, the *ganchkata* and *padmakata*. The *ganchkata* has a wooden centre beam with an iron hook at either end, from one of which weights are hung, while from the other the

load to be weighed is suspended by a rope. At times, wooden pans are attached to the hooks by stout ropes, one pan serving for the weights and the other for the jute. This type of scale weighs up to 3 maunds. The *padmakata* has an iron centre beam, from either end of which wooden boards or iron pans are suspended. Five or six maunds can be weighed at a time. This type of scales is fast replacing the *ganchkata* because of its durability, accuracy and simplicity in use. Big balers in some of the important markets—such as, Narayanganj, Dacca, Narasingdi, Sarisabari, Chandpur, etc.—use weigh-bridges.

390. At mills and presses in Calcutta, it is customary to weigh all jute arrivals on weigh-bridges which are regularly checked for accuracy. In addition, a certain amount of weight-checking is done on hand operated beam scales usually 'Fairbanks.' Mills cannot afford to be short in weighments, so they take every precaution to see that their scales are accurate.

D. METHODS OF WEIGHING

391. Weighment is ordinarily done at all stages by the buyer, but it has been reported, particularly in East Bengal, that the village sellers sometimes insist on weighing out their own fibre. When the quantity of jute offered for sale is fairly large, buyers not uncommonly weigh a few bundles only, taking the average weight of these as representative. Thereafter, the bundles are counted and the weight of the whole consignment is calculated on the basis of the average weight previously obtained. While counting the bundles, the buyer or his men test the weight of each by handling, and those which appear to be light are put aside and weighed separately. The method facilitates transactions and is generally followed in *hats* and primary markets. On the contrary, in secondary markets, all jute purchased is weighed. *Aratdars* and *kutchā* balers customarily engage *Koyals* (weighmen) for the purpose of weighing all imports. These men, who are paid either a monthly sum or a flat rate for the season, were reported to earn from Rs. 12 to Rs. 25 per month, or Rs. 150 to Rs. 300 for the season. In many cases, their remuneration depends upon ability to manipulate the scales in favour of the buyer. The practice of over-weighing was found to be common in baling stations. In some markets, buyers charge the sellers

a weighing allowance which goes to meet the wages of their weigh-men.¹

E. VERIFICATION OF WEIGHTS

392. Although the question of standardization of weights and measures has long engaged the attention of the various provincial governments in India, no active steps have so far been taken to establish standard weights and measures on an all-India basis.² Most of the local self-governing bodies have framed model bye-laws for checking the accuracy of weights and measures which, however, are rarely enforced and, as a result, weights are exceedingly diverse. District administrative authorities have power under the Indian Penal Code to punish users or possessors of faulty weights, measures and scales if well substantiated complaints are lodged against them. In practice, however, few complaints are made by private individuals, although false weights and scales are reported to be in common use in the interior. No weight-checking appears to be done by the district authorities or local bodies. When growers sell in villages, they sometimes compare *farias'* or *beparis'* weights with their own in order to check them, and occasionally they use their own scales and weights for weighing their produce. But, as there is no official checking or verification of weights at any point, it is not possible to prevent buyers from using faulty weights and scales to their own advantage.

393. To sum up, it appears that, throughout the jute areas, the variations in weight standards provide a profitable means of exploiting the seller, and the sooner the provisions of the Government of India Standards of Weight Act are given effect to by Provincial Governments, the better it will be for the grower.

¹ Cf. Ch. III, Sec. E 1 (b) (iv), supra.

² Under the Govt. of India Act of 1935, the Central Government is responsible for the establishment of standards of weights, while Provincial Governments are concerned with weights and measures. Accordingly, the Standards of Weight Act was passed by the Central Legislature early in 1937, prescribing the various units of weight, viz. the tola, the seer and the maund and also the ounce, the pound, the hundred-weight and the ton. The enforcement of the use of weights based on these standards and the fixation and regulation of measures, is a matter for the Provincial Governments. So far, none of the jute growing provinces has undertaken any legislation in this direction.

CHAPTER IX

SEED

A. GENERAL

394. There appears to be no scarcity of seed in any one year. On the contrary, there are indications that supply exceeds the normal demand by a fairly large margin. The estimated area under jute has sometimes increased by more than 30 per cent. in one year, for example from 2,181,000 acres in 1935-36 to 2,886,000 in 1936-37.¹ Again, inclement weather after the completion of sowings has often necessitated re-sowing over large areas. Thus, the fact that a large and sudden increase has occasionally taken place in jute cultivation and that second sowings have been made in some years, go to show that generally there are plentiful supplies of jute seed.

395. All areas are not self-sufficient in seed production. In order to avoid the annual floods, jute plants in low lands are cut early—in many cases even in an immature state—with the result that seed cannot be produced there. The high and medium lands, however, are most suited for this purpose, and cultivators in such tracts normally grow more seeds than they actually require, thus having an adequate balance to meet demands from elsewhere. In 1925, it was estimated by the Director of Agriculture, Bengal, that not less than 50,000 maunds were imported yearly into the low lands of Dacca, Tippera, Pabna and Faridpur from Mymensingh, Rangpur and Assam.²

B. SOURCE OF SUPPLY

1. TYPES OF SEED.

396. The seed of the two species, *Corchorus capsularis* and *Corchorus olitorius*, are easily distinguished. The former bears a round shaped, brown coloured capsule which forms at the base of the upper leaf shoots. It contains up to one hundred seeds of deep brown colour, oval in shape, and about three millimetres long by two in breadth. *Olitorius* produces pods from two to three inches long, containing as many as two hundred very small pyramidal seeds of a bluish brown colour.

¹ *Ide Annual Jute Forecasts.*

² *Cf. Note on the Jute Crop Situation, dated 12th November 1925, by Kenneth McLean.*

2. SEED PRODUCTION.

397. (a) *By growers*—With the exception of those who cultivate the low lying areas, it is customary for growers to produce and preserve seed for the next year's crop. Plants of superior growth are not especially selected for the purpose of obtaining seed, in fact it is sometimes quite the reverse. Ordinarily, at the time of harvesting, a portion of the crop is left standing either in a corner of the field or in a fringe along its edge, and often this is the poorest section of the crop. After ripening, which happens about six weeks after the flowering of plants, the seed bolls are removed, the plants are cut and retted and the fibre is stripped and prepared for sale.

398. (b) *By planters*—For the last 20 or 25 years, a number of *zamindars* and old indigo planters have grown jute in the Champaran, Saran and Muzaffarpur districts of Bihar, purely for the production of high quality seed. Many of these planters have entered into contracts with the Government of Bengal to supply stipulated quantities of D. 154 (*Capsularis*) and Chinsurah Green (*Olitorius*) seed, having a germinating capacity of not less than 96 per cent.¹

399. (c) *Government Farms*—The Government Agricultural Farms in Bengal grow small quantities of jute each year, always of superior strains, and the seed taken from it is generally given to reliable cultivators who multiply it in isolated areas where there is likely to be little chance of crossing with other varieties. The seed thus obtained is later issued to seed growers for production in the next year. This process is continued year after year with a view to ensure a supply of pure seed for bulk producers.

400. (d) *Production rate*—The yield of jute seed has been estimated by the Department of Agriculture, Bengal, at approximately 4 mds. of *Capsularis* and 3 mds. of *Olitorius* per acre. This was corroborated by the Marketing Enquiry which obtained similar results by interrogating growers.

401. In order to keep jute seed in good condition, it is necessary to protect it from damp, heat and insects. Cultivators preserve it in earthen pots fitted with lids which are sealed with clay to keep them air tight. The pots are then put in a dark, cool place or hung from the roof to avoid breakage and also to prevent damp finding its way through the baked clay. As a safeguard against destruction by insects,

¹ Discussed more fully in Sec. D of this chapter.

ordinary wood ashes are sometime mixed with the seeds. This practice is almost universal in the seed producing areas. Planters and the bigger jute growers, however, exercise more care in storing seed. Their containers are generally glazed earthen pots which keep the seed dry and cool. The period of storage is normally four to six months: the seed is collected from the plants between October and December and used from February to May. Thus, it has the advantage of being stored during the cold weather when day temperatures rarely exceed 90° and when there is little or no rain.

3. DISTRIBUTION.

402. Much of the growers' surplus seed is bought by itinerant *beparis* or by the local *bania* (shop-keeper). In areas where seed production is not possible owing to floods, growers begin to purchase seed as early as December, and by the end of January most of them have secured their requirements. The lowest prices reported were one and a half annas per seer for *Capsularis* seed, and about two annas for *Olitorius*. Sometimes, as much as six to eight annas for the former variety, and nine to twelve annas for the latter have been paid. High prices for seed are in the main due to local scarcity, but can also be attributed to superior germinating qualities. When purchasing seed, either from a *bepari*, shop-keeper or a fellow cultivator, the growers ordinarily look for three qualities, namely firmness, fullness and freedom from foreign matter. As a result of long experience they can judge quality with fair accuracy. No sellers were reported to undertake grading or cleaning of seeds, nor was any complaint made regarding the adulteration of jute seeds with others of similar size and colour. *Bazar* seeds carry no guarantee of germination, and it was estimated by a number of growers that rarely did more than 65 per cent. of the ordinary seeds—i.e. those preserved by growers themselves—germinate.

403. Certain large scale producers in Bihar supply seed on contract to a firm which has been authorised by the Bengal Government to sell high class seed in the presidency. This seed is expected to show, when tested, a germination of not less than 96 per cent. Seed of this class represents only a small fraction of the annual requirements. In the season 1937-38, less than 2,000 maunds were sold to growers, and the price charged by the firm was twelve annas per seer for *Capsularis* and one rupee for *Olitorius*. Though smaller quantities of this seed are required

for sowing a unit of land, the cost—approximately Rs. 3 per acre—must have been a serious consideration to growers particularly during a period when the prices of jute were low. The table below shows the extent to which growers use their own seed, *bazar* seed and the superior seed described above.

TABLE LXVI
Growers Using Various Types of Seeds (1937-38).

No. of growers interrogated	Growers using own seed	Growers using bazar seed	Growers using Govt. guaranteed seed
5,672	3,479 (61%)	2,129 (38%)	64 (1%)

Land Sown with Various Types of Seeds (1937-38).
(in acres)

Total area reported sown by witnesses	Area sown with growers' own seed	Area sown with bazar seed	Area sown with Govt. guaranteed seed
8,624	5,543 (64%)	2,992 (35%)	89 (1%)

It will be seen that in 1937-38, 61 per cent. of the growers used their own seed, nearly 38 per cent. were using seed which may or may not have been superior to any, which they could have produced and less than 1 per cent. purchased the government guaranteed seed.

C. QUANTITATIVE REQUIREMENTS

1. SOWING RATE.

404. The quantity of seed required to sow one unit of area depends upon the quality of seed and the fertility of the land to be sown. Most growers do not fertilise their fields nor do they carry out rotation of crops. The low *char* lands, which receive each year a deposit of silt from rivers, require no manuring. The greater part of the medium and high lands, however, is not manured regularly, still the natural fertility of these areas is such that the largest yields and the best qualities of jute are obtained from them. The average sowing rate of growers' seed has been calculated, from the results of the Enquiry, at approximately 6 seers per acre in the case of *Capsularis* and 4 seers *Olitorius*.

TABLE LXVII
*Village or Bazar Seed Required for Sowing
 One Acre of Land.*

District	Capsularis	Olitorius
Bengal	Seer.	Seer.
Murshidabad	...	} 4½
Jessore	...	
Khulna	...	
24 Parganas	...	
Rangpur	6½	4
Bogra	6	2½
Pabna	5½	2½
Dacca	5	3½
Mymensingh	6	3½
Tippera	5½	3
Bihar		
Purnea	4½	4
Orissa	5	3½
Assam		
Sylhet	5½	...
Goalpara	7½	5½

The Capsularis rate ranges between 4¾ seers per acre in Purnea and 7½ seers in Goalpara, and Olitorius between 2½ seers in Pabna and 5½ seers in Goalpara. The high rate in the latter district was stated to be due to the practice of sowing thickly in the belief that the density of the crop would keep down the growth of weeds. This system was prevalent in parts of Mymensingh also: in several villages, the sowing rate was reported to be as high as 10 seers per acre (Capsularis). The rates of sowing recommended for seeds bearing the 96 per cent. germination guarantee are per acre, 4 seers of Capsularis and 2½ to 3 Olitorius.

2. SEED REQUIRED FOR THE TOTAL JUTE AREA.

405. It has been calculated that the acreage devoted to jute cultivation in 1937-38, was 4,067,000¹, of which 3,050,250 acres were under white and 1,016,750 tossa.² To sow this area, the following quantities of growers' seed of each variety will be required.

Capsularis, at 6 seers per acre	...	457,500 mds.
Olitorius, at 4 " " "	...	101,700 mds.
Total	...	559,200 mds.

¹ Cf. Ch. I, Table VII, supra.

² Ibid, Table XVI, supra.

These estimates may be somewhat liberal as the seeds of Bihar, North Bengal and Assam, which are reported to have better germinating properties and therefore lower sowing rates, have not been considered in this connection owing to the inconclusive nature of the evidence given by growers. The imports of 55,000 mds. of seed into East Bengal districts in 1925, mentioned before, would amount approximately to one-tenth of the above estimate.

D. CONTROL AND SUPPLY OF IMPROVED SEEDS

1. EVOLUTION OF IMPROVED VARIETIES.

406. As far back as 1900, the Bengal Chamber of Commerce requested the Government of Bengal to make an investigation into the cultivation of jute as the quality of the fibre was believed to be deteriorating. Consequently, on the recommendation of the Board of Scientific Advice, a Fibre Expert was appointed in 1904.¹ Scientific research work was, thus started on "pure line", that is on the progeny of a single plant. Later, investigations and experiments resulted in the evolution of two strains of high yield; *Kakya Bombai* (Capsularis) and *Chinsurah Green* (Olotorius). Growers soon became interested in these strains and created a demand which quickly exceeded the supply, with the result that, in 1915, the Government arranged with a number of indigo planters of Bihar to produce improved seeds.² In 1917, a scheme was sanctioned by the Government whereby selected *ryots* were each given $\frac{1}{4}$ lb. of departmental seed for the purpose of multiplication.³

2. DISTRIBUTION OF IMPROVED SEED.

407. Distribution of the improved seeds was carried out by officers of the Agricultural Department and increased steadily during the next three years. It was estimated by the Fibre Expert to the Government of Bengal that, by 1920, over 200,000 acres had been put under *Kakya Bombai* in Bengal, Assam and Bihar.⁴ From 1921 onwards, the Calcutta mills complained that the fibre produced from *Kakya Bombai* was harsh and brittle and did not spin well. They deprecated the wide-spread

¹ Cf. Historical Note on Experiments with Jute in Bengal, dated the 19th December 1920, by R. S. Finlow.

² Ibid.

³ Cf. Letter No. 643-53 C, dated the 20th August 1917, Department of Agriculture, Bengal.

⁴ Vide Historical Note, R. S. Finlow, *op. cit.*

propagation of that strain in Dacca, Mymensingh and Tippera districts as they considered that it was lowering the fibre quality of jute normally produced there. At a meeting between members of the trade and representatives of the Department of Agriculture in 1923 this matter was fully discussed, and it was decided that an investigation into the quality of fibre produced from departmental seed should be undertaken. The investigation was carried out over several years, and the results indicated that there was little, if any, difference between the jute produced from the departmental seed and that of other races.¹ Later, however, a selection of *Kakya Bombai*, namely D.154, which had been evolved in 1919-20 and had proved successful in tests, was substituted for that strain.² Annual tests of this improved seed since then proved that it gives a higher yield, and it is still being steadily distributed. Of the *Olitorius* variety, Chinsurah Green continues to be the best strain.

408. The demand for departmental seed increased each year, and in 1923 about 3,000 maunds were raised for sale and distribution. In that year, the Government decided that as the sale of seed had become too big an undertaking for the Agricultural Department with its small staff, it was necessary to appoint a business agent for the actual sale of the seed. With the approval of the Government, therefore, the Department entered into an agreement with Mr. A. L. Godden,³ whereby the latter accepted financial responsibility for the production, sale and distribution of departmental seed. The Government, through the Agricultural Department, maintained its control over the amount of seed to be grown each year, scrutinizing the list of producers and the respective quantities to be supplied by them. It, further, undertook to test the seed before finally handing it over to the agent for sale at a price to be fixed by Government.⁴ It appears that the success of these arrangements was generally recognized by the jute trade.⁵ In 1925, the London Jute Association granted £1,500 (Rs. 20,000) per annum for five years, which was utilized in distributing seed in small packets to approved cultivators in

¹ Cf. (i) Report of the Dept. of Agriculture, Bengal, 1922-23, p. 3.

(ii) " " " " " " " " 1925-26, p. 6.

² Cf. (i) Report of the Dept. of Agriculture, Bengal, 1919-20, Appendix IV

(ii) " " " " " " " " 1923-24, p. 4.

³ An agent of the Joint Steamer Companies, posted at Narayangunj.

⁴ Cf. Report of the Dept. of Agriculture, Bengal, 1923-24, p. 14.

⁵ Cf. " " " " " " " " 1925-26, p. 19.

tracts where departmental seed was not grown on a large scale.¹ Later in the year, the Indian Jute Mills Association, realizing the risk involved in the production and sale of departmental seed offered to guarantee the Department of Agriculture against loss up to a maximum of Rs. 2½ lakhs.² These instances of financial assistance by the trade go to show that it fully appreciated the work that was being done in connection with the spreading of improved strains of jute. In 1927 and 1928, however, the sales of seed were less than the quantity contracted for by the agent, and the resultant loss was met by the Indian Jute Mills Association which further renewed its guarantee. In subsequent years, on account of the economic depression, the demand for departmental seed decreased considerably, being only 500 mds. in 1931 and 620 in 1932, and in the following years the distribution remained at about that level. According to the official records, 17,882 mds. of D.154 (*Capsularis*) and 6,524 mds. of Chinsurah Green (*Olororius*) were distributed through the Government agent during the period 1922-1936.³ Interest was, however, revived in 1936 and by the next year sales had risen to about 2,000 maunds.

409. The importance of this subject was realized by the Indian Central Jute Committee soon after it was constituted. At its second meeting held in August 1937, the Committee laid down that the sum of Rs. 50,000, which had been already set aside for financing the supply of jute seed of improved varieties, should be regarded in the light of a Government advance for similar work. The Committee was to guarantee the purchase of seed on the understanding that the provincial Directors of Agriculture would look after its disposal. At the same time, the fund of Rs. 50,000 was to be maintained over a series of years. The Directors were to be allowed a free hand in the utilization of the seed. Further, the collection of indents, the distribution of seed and the realization of money from the purchasers were to form some of the functions of the District Agricultural Staff of the Committee. The Government of Bengal did not accept the Committee's offer of assistance from the grant of Rs. 50,000 as they had made a contract with Messrs. Godden & Co. for the supply of tested seed

¹ Cf. Report of the Dept. of Agriculture, Bengal, 1925-26, p. 19.

² *Ibid.*

³ *Vide A Short Survey of the Work, Achievements and Needs of the Bengal Agricultural Department, 1936, p. 12.*

to cultivators. But they agreed to undertake the distribution of seed later on when new and better strains of jute were evolved by the Agricultural Research Staff of the Indian Central Jute Committee. The Government of Bihar, however, requested that a sum of Rs. 2,000 be reserved for seed distribution in that province, but so far they have not applied for this amount. The present position is that the sum of Rs. 50,000 has been placed by the Committee in a separate Advance Account till a suitable scheme of seed distribution in the jute growing provinces is worked out.

3. AREA UNDER IMPROVED SEED.

410. As already described, the distribution of improved varieties of seed commenced in Bengal some time in 1915, when selected growers were given small packets which they agreed to use to grow jute for seed production. Since then, the cultivation of the new strains has increased rapidly. In 1929, it was estimated by the Department of Agriculture that about nine lakhs of acres were under departmental seed.¹ The recent position with regard to the area under improved varieties is shown below.

TABLE LXVIII.
*Area Under Improved Seed.***
(in acres).

Year.	Bengal.	Assam.	Orissa.
1936-37	1,301,444	13,765	260
1937-38	1,763,747	14,391	256

** Figures for the province of Bihar are not available.

Source—Information supplied by Departments of Agriculture.

It would appear, therefore, that by 1937-38, the total area under improved seed was approximately 61 per cent. of the total jute acreage.

E. SUMMARY

411. It is important to note that Bengal, which grows about 86 per cent. of the all-India jute crop,² is unable to produce sufficient seed for its own requirements. The existence of large lowlying areas and the persistently high humidity which are

¹ Annual Report of the Department of Agriculture, Bengal, 1928-29.

² *Vide* Final Jute Forecast, 1939.

unfavourable to the production of high quality seed, seem to be mainly responsible for this state of affairs. The conditions in North Bihar, on the other hand, though not ideal for jute production, definitely suit the growing of seed and large tracts could be devoted to this purpose. Thus, there has never been a seed problem in that province, and supplies of good seed are readily available. Further, there are reasons to believe that Assam produces sufficient seed for the provincial requirements. And, it has been reported that, in addition, it exports fair quantities to East Bengal.

412. Research into the agricultural aspects of jute has been carried out for many years by the Agricultural Department of Bengal, and has resulted in the evolution of a number of high yielding strains of which D.154 and Chinsurah Green have so far proved most successful. Since 1939, however, the Agricultural Research Laboratories of the Indian Central Jute Committee, established at Dacca, have commenced research on jute. Special efforts are to be made to improve both the quality and yield of fibre.

CHAPTER X

UTILIZATION AND DEMAND

413. Hitherto discussion has been confined to the problems relating to the marketing of jute in villages, *hats*, baling centres and terminal markets. In order to complete the picture of its movement from the producer to consumer, it is proposed in this chapter to refer briefly to the utilization of, and the demand for, the fibre. The various aspects of its consumption as raw material and the distribution of finished products will be dealt with in the Second Marketing Report.

A. UTILIZATION

414. The study of this subject may be conveniently undertaken on the following lines.

1. Export, and
2. Indian requirements—
 - (a) by jute mills and
 - (b) in villages.

The calculated annual production of jute as well as the quantities purchased by mills in India, consumed in villages and exported to foreign countries during 1929-30 to 1938-39 are shown in Table LXIX overleaf. It will be noticed that, on an average, about 60 per cent. of the annual production was utilized within the country while 40 per cent. was exported.

1. EXPORTS.

415. The average yearly exports during the period under review, amounted to 3,978,000 bales. The United Kingdom was the biggest buyer of raw jute, its average yearly purchases approximating to a little over 22 per cent. of the total exports. Germany was close second with an average of 21.4 per cent. : she was the most important importer of jute from India in 1929-30 and 1930-31, but from 1931-32 onwards, the United Kingdom has proved to be the biggest single buyer. Next in importance is France with an average of 11 per cent., while the U.S.A., Italy and Belgium follow close to one another with respective imports of 8.7, 8.1 and 8.2 per cent. of the Indian exports of jute. Details of exports to above countries during the years 1929-30 to 1938-39

TABLE LXIX.
Distribution of Jute.
 (000's bales)

Season	Calculated production ¹	Exports ²	Indian consumption		
			Village consumption ³	Probable mill purchases ⁴	Total
1929-30	11,294	4,512	339	6,443	6,782
1930-31	10,893	3,416	327	7,150	7,477
1931-32	7,108	3,113	213	3,782	3,995
1932-33	8,996	3,513	270	5,213	5,483
1933-34	9,730	4,248	292	5,190	5,482
1934-35	10,366	4,386	311	5,669	5,980
1935-36	8,627	4,136	259	4,232	4,491
1936-37	11,225	4,884	337	6,004	6,341
1937-38	11,895	3,728	357	7,810	8,167
1938-39	9,092	3,842	273	4,977	5,250
Average of 10 years	9,923	3,978	293	5,647	5,945
Percentage	100	40.1	3.0	56.9	59.9

¹ Cf. Ch. I, Table XXIII, supra (with additions for 1929-30, 1930-31 and 1931-32).

² *Vide* Annual Statement of Seaborne Trade of British India. The basis has been changed from financial year to jute season (July-June), and the figures have been modified accordingly.

³ Cf. Ch. I, Sec. F, supra.

⁴ The "probable mill purchases" are represented by calculated production less exports and village consumption.

are given below, the figures for all the jute consuming countries being given in Appendix M from which it will be noticed that the European countries imported 79 per cent. of India's jute exports, i.e. about 32 per cent. of the average production.

The greater proportion of the jute exported to foreign countries was utilized for the manufacture of containers and wrappers either for their own requirements or for export to other markets. They also produce high grade fabrics and special types of jute goods which mills in India have not so far attempted to make.

TABLE LXX.

*Export of Raw Jute to Foreign Countries.***

(000's bales)

Official year April to March	United Kingdom	Germany	France	U. S. A.	Italy	Belgium	Others	Total
1929-30	923	1,212	596	445	307	259	777	4,519
1930-31	604	946	560	297	236	264	619	3,470
1931-32	865	733	290	275	242	257	619	3,286
1932-33	725	682	286	201	210	228	719	3,152
1933-34	962	926	469	290	864	313	336	4,190
1934-35	932	743	469	289	487	335	964	4,215
1935-36	930	851	421	445	275	312	1,055	4,319
1936-37	1,043	836	473	488	427	332	992	4,591
1937-38	811	801	364	555	408	306	940	4,185
1938-39	1,025	774	426	174	253	271	938	3,466
Average percentage of 10 years	22.2	21.4	11.0	8.7	8.1	7.2	21.4	100

** For details see Appendix M

Source—Annual Statement of Sea-borne Trade of British India.

2. INTERNAL CONSUMPTION.

416. (a) *By jute mills*—The average purchases by mills in India during the decade under review amounted to 5,647,000 bales

TABLE LXXI.

Purchases and Consumption of Mills in India.

(000's bales)

Season	Purchases	Consumption**
1932-33	5,213	5,082
1933-34	5,190	5,031
1934-35	5,669	5,414
1935-36	4,232	5,894
1936-37	6,004	7,060
1937-38	7,810	7,542
1938-39	4,977	6,605
Average of 7 years	5,585	6,097

** *Vide* Monthly Statistics of the Production of Certain Selected Industries of India.

annually, but it does not follow that they consumed all that quantity in each season. In fact, during the seven years 1932-33 to 1938-39, the average consumption exceeded the purchases of the mills by about 510,000 bales as will be seen in Table LXXI above. It is likely that a part of this deficit was met by drawing upon the stocks of raw fibre. It is, however, necessary to point out that, as the actual amounts purchased by mills were not available, the figures given in the preceding tables are estimates only, representing the difference between the calculated production and the total of exports and village consumption. Out of the 84 jute mills established in India—with a total of 68,676 looms—72 mills, with 65,521 looms, are situated in the neighbourhood of Calcutta. The mill area extends for sixty miles on either side of the river Hooghly. The distribution of the all-India loomage is shown in the table below. Separate

TABLE LXXII.

Distribution of Looms in India.†

Province	Looms	Per cent.
Bengal	65,521	95.5
Bihar	1,144	1.7
Madras	991	1.4
United Provinces	870	1.2
Central Provinces	150	0.2
Total	68,676	100.0

† *Vide* Book of Reference published by the Indian Jute Mills Association (1940).

statistics of the consumption of jute by mills in the various provinces are not available. However, the figures given below, calculated from the known loomage, working hours and type and weight of fabrics produced, may serve as an index to the actual position during 1937-38.

TABLE LXXIII.
*Probable Consumption of Jute by Mills in each
 Province (1937-38).***
 (000's bales)

Province	Quantity consumed	Percentage of total mill consumption
Bengal	7,078	93.8
Bihar	191	2.5
U. P.	190	1.8
Madras	128	1.7
C. P.	17	0.2
Total	7,542	100

** Calculated on known loomage, etc.

417. (b) *In villages*—The consumption of jute in the villages of the four main jute producing provinces—Bengal, Bihar, Assam and Orissa—amounts to about 3.0 per cent. of the total production.¹

B. DEMAND

1. QUALITATIVE REQUIREMENTS.

418. (a) *Exports*—The demand from overseas covers all qualities of jute. For the manufacture of fine hessians and tarpaulins, as well as for special class of goods, such as upholstery fabrics, in which jute yarn is blended with that of cotton, flax, silk or other staples, some of the finest fibre obtainable is exported. On account of their fine spinning qualities, there is usually a good demand from overseas markets for the best *jat* jute, both white and tossa, which commands substantial premia over other classes. According to some prominent merchants, in a season when quality is good as for example 1937-38, this superior class of jute, which is almost wholly exported from India, does not amount to more than 10 per cent. of the total shipments. *Daisee*, *northern* and *western* (Bihar) jute forms 55 to 65 per cent. of the exports, while the balance is made up of *district* (East Bengal) and *Assam* fibre. Quality is not constant from one year to another. Droughts and excessive rains and floods, such as took place in 1938, can seriously affect the quality of the jute crop.

¹ *vide* Ch. I, Sec. F, *supra*.

419. (b) *Mills in India*—They purchase most of their requirements of raw material from East Bengal *jat* and *district* areas, i.e. Mymensingh, Dacca, Tippera and Faridpur. Jute from these districts is of hard and medium hard qualities, fairly strong and contains a good deal of high coloured fibre suitable for the manufacture of high grade hessians. In all, about 70 per cent. of the mills' total purchases are of this class of jute, the balance being made up of North Bengal, Assam, Bihar and *daisee* qualities. Jute of the latter classes is soft, has a fairly large percentage of broken low coloured fibre, and is not generally suitable for hessian production. In addition, it does not stand long storage.

420. (c) *Villages*—The quality factor is unimportant for the domestic requirements of the villagers who generally use inferior fibre for making cordage.

2. QUANTITATIVE REQUIREMENTS.

421. (a) *Export*—The fluctuations in the jute exports and in the internal requirements of India have been shown earlier.¹ The quinquennium, 1929-30 to 1933-34, was a period of world-wide trade depression, which affected jute also. The exports during the year 1929-30 amounted to 4,512,000 bales, thus exceeding the average of the decade under review by 534,000 bales. But, in the next year, 1930-31, the exports decreased by over one million bales. The low demand for raw jute may be attributed to a great extent, to the accumulation of vast stocks of unsold jute goods, both in India and abroad, and the consequent decline of their prices to uneconomic levels. The mills in India and in foreign countries adopted measures to restrict their production with the result that the exports of raw jute decreased to 3,113,000 bales in 1931-32, which is the lowest figure on record since 1923.²

422. The policy of restricted production saved the industry from disaster, and the position became more hopeful as will be noticed from the increased exports—3,513,000 bales in 1932-33. Conditions further improved in the succeeding year and the exports registered an increase of 735,000 bales, amounting to 4,248,000 bales. This was partly due to a better demand for raw jute from Dundee—the continental mills continued working to a maximum of 40 per cent. capacity—and partly to the considerable speculative buying of jute and jute goods following the U. S. A's

¹ Cf. Table LXIX, *supra*.

² Cf. Report of Indian Jute Mills Association, 1938.

departure from gold standard.¹ The year 1934-35 witnessed a further rise in the total exports, amounting to 4,386,000 bales, although the imports by individual countries were "irregular due to varying economic factors in the shape of quotas, foreign exchange difficulties and currency restrictions."²

423. In 1935-36, the exports decreased by 250,000 bales owing to the restrictions on trade enforced by many Governments.³ The increase in exports, of about 750,000 bales during 1936-37, was attributed to healthy trade conditions throughout the world and also to an increased demand for continental jute goods resulting from the labour strikes in Calcutta mills early in 1937.⁴ The exports during the next two seasons, 1937-38 and 1938-39, show a drop of over a million bales each when compared with the shipments of 1936-37. Restriction of world trade on account of the uncertain political situation in Europe, appears to have been mainly responsible for the decrease in exports of those two years.⁵

424. (b) *Mills in India*—During the years 1929-30 to 1933-34, the jute industry in India was experiencing difficulties similar to those of its counterpart in foreign countries. The first measure adopted to regulate the production of jute goods to world demand took the form of the reduction of working hours from 60 to 54 per week with effect from 30th June 1930. And, a few days later, on 4th July 1930, it was decided to stop all mills for one week per month during the third quarter of that year.⁶ It appears, however, that the conditions then prevailing warranted a more drastic action for curtailing production. Eventually, from 2nd March 1931, the Association mills started working for 40 hours per week with 15 per cent. of their looms sealed.⁷ This step had the effect of reducing the purchases of the mills from 7,150,000 bales in 1930-31 to 3,782,000 in the following season. The restricted working of the mills continued till November 1934 and, although their purchases increased by 1,431,000 bales in 1932-33, and were approximately at the same level in 1933-34, the

¹ Cf. Report of Indian Jute Mills Association, 1933.

² " " " " " " 1935.

³ " " " " " " 1936.

⁴ " " " " " " 1937.

⁵ " " " " " " 1938.

⁶ " " " " " " 1931.

⁷ Cf. Table LXIX, supra.

consumption of the mills remained stationary at about 5 million bales in each of those years.

425. Trading conditions improved by the end of 1934, and the mills decided to increase their production by releasing gradually the sealed looms with effect from 1st November 1934. This accounts for an increased consumption in 1934-35. Later on, world trade having improved to a great extent, the mills in India resumed working with full machinery complements from 17th February 1936, hours being increased to 54 per week from 5th August 1936. As a result, the total consumption reached 7,060,000 bales in 1936-37.¹ In the following year, it seems that the comparatively low prices of Calcutta made jute goods attracted larger orders from overseas. To meet the increased demand, the Indian Jute Mills Association removed all restrictions on production from March 1937 onwards, with the result that the consumption of raw jute amounted to 7,542,000 bales in 1937-38. Excessive rains and floods in 1938 proved disastrous for that year's jute crop, and the purchases of the mills in 1938-39 amounted to 4,977,000 bales only as against 7,810,000 bales in the preceding season. The consumption also decreased to 6,605,000 bales owing to the restrictions imposed on the working of the mills by an Ordinance of the Government of Bengal promulgated on 9th September 1938, with a view to adjust the productive capacity of mills to the known and visible demand for goods. Consequently, with effect from 26th September 1938, "all mills in Bengal were required by order of the Government to work their looms only 45 hours per week with the exception only of such mills whose total complement of looms did not exceed 175, they being permitted to work 72 hours per week."²

426. (c) *In villages*—As long as the consumption of jute in villages is confined to rope and string making, it cannot be expected to vary from year to year to any appreciable extent. It was, however, stated by growers that when prices were high they retained smaller quantities of fibre for domestic purposes.³

¹ Cf. Table LXXI, *supra*.

² Report of the Indian Jute Mills Association, 1938, p. 70.

³ According to the supplementary Marketing Enquiry held in December, 1939, village consumption amounted to 2.7% as compared with 3.0% in 1937-38. This decrease may be explained by the fact that owing to high prices prevailing during 1939-40, growers kept as little fibre for domestic requirements as possible.

C. SUMMARY.

427. The average annual world requirement of jute, during the seven years 1932-33 to 1938-39, may now be summarised as under—

Exports	...	...	4,105,000 bales
Consumption by mills in India	...	...	6,097,000 "
Indian villages	...	...	300,000 "
			<hr/>
			10,502,000 bales
			<hr/>
Average calculated production for corresponding years ¹ ...	...	...	9,990,000 bales
			<hr/>

This shows that the average demand exceeded the annual supply by 512,000 bales. But, on the basis of the mills' purchases—which were on an average 500,000 bales less than their actual annual consumption—the world requirements were more or less equal to the average outturn of jute in India. As jute is employed mainly for the manufacture of containers for agricultural and mineral products, its consumption varies from year to year in accordance with crop prospects. Another important factor governing its demand is the tariff policies adopted by many countries in pursuance of their declared aim of national self-sufficiency. Efforts are continually being made by various countries to challenge the supremacy of jute. The establishment of grain elevators, various attempts at utilizing substitute fibres, the employment of cotton and paper bags and the cultivation of jute outside India, all go to show that the position of jute is being threatened in many of its most important markets. The extent to which jute has been displaced as a medium of packing will be dealt with at length in the Second Marketing Report. It is gratifying to note, however, that serious endeavours are being made, both at Dundee and Calcutta, to explore fresh avenues for the uses of jute. The establishment of Research Laboratories by the Indian Central Jute Committee and the Indian Jute Mills Association bears testimony to the fact that both the Government and the trade are fully alive to the dangers of the situation.

¹ Cf. Ch. I, Sec. G, *supra*.

CHAPTER XI

SUMMARY OF FINDINGS AND RECOMMENDATIONS

(Figures in Parenthesis Refer to Paragraphs in the Main Report).

Introduction.

1. The fact that the ancient Greek, Egyptian and Arabic literature contains descriptions of a pot herb similar to the *Corchorus olitorius* leads to the inference that probably the jute plant had its origin in the Mediterranean regions. It is not known when it was introduced into India, but the mention of the word *patta* in *Manu* indicates that the plant was known in 800 P.C. (1)

2. Jute fibre, used primarily for cordage, was with the advent of time spun into yarn and woven into rough cloth which was used for garments and bedding and later for making containers for agricultural produce. Though it is not known when the hand made goods were first exported, it is on record that 1,013,277 pieces of gunny and gunny bags were exported in 1828-29, 13,199,486 pieces in 1849-50, and the peak was reached in 1865-66 when 41,525,809 pieces valued at about 84 lakhs of rupees were exported. But as the indigenous industry could not compete with mill made goods, it lost its importance towards the last quarter of the nineteenth century. (2)

3. The year 1838 is notable in the history of jute fibre as in that year, the jute industry became established in Dundee and exports of raw fibre, which had until then been small—8,785 tons in 1836-37—began to increase and amounted to 29,140 tons in 1850-51. During the Crimean War of 1854-56, the stoppage of the supplies of Russian flax gave an impetus to Dundee's demand for raw jute, the exports from India amounting to 54,822 tons in 1860-61. (3)

4. The year 1855 marked the commencement of a new era in the Indian jute industry as the first spinning mill was established at Rishra in that year. This was followed four years later, in 1859, by the first power driven jute weaving factory at Baranagar. The progress made during the next twenty five years, though not spectacular, was steady and there were 20 mills with 6,700 looms in 1885. The exports of raw jute had also increased considerably and amounted to 385,435 tons in

1885-86. The establishment of jute mills in France and Germany and, later on, in America and Italy, created fresh demand for the fibre resulting in the export of 632,434 tons in 1900-01 and 827,000 in 1908-09. Rapid progress was simultaneously made by the jute industry in India, the number of looms increasing to 15,213 in 1901 and 30,685 in 1909. (4)

5. Broadly speaking, the last thirty years have been remarkable more for the expansion of the industry in India than abroad. The number of mills in India is now (1940) reported to be 84 with a total of 68,676 looms. The export of raw jute, on the other hand, did not increase in the same proportion. Having touched the peak in 1928-29, when 897,900 tons were shipped, it receded, on account of the diminished demand, to 690,350 tons in 1938-39. (5)

6. The employment in world commerce, of jute fabrics as wrappers and containers appears to have been the turning point in the history of the fibre. The early efforts of Dundee mills were confined to the manufacture of sacking and hessians, but the production, in later years, of similar types of goods by Calcutta mills at comparatively cheaper rates spurred the Dundee spinners to explore fresh avenues for the uses of jute. Indeed, it is mainly due to their efforts that jute fabrics can now be bleached and water-proofed, and curtains, carpets, upholstery fabrics and even dress materials—made wholly or partly of jute—can be manufactured. (6—7)

7. No records of the area under jute in India is available for years previous to 1872, when it was estimated at 925,899 acres. After that, it seems that the cultivation of jute followed the trend of the demand for fibre and kept on increasing till it covered an area estimated at 3,883,200 acres in 1907-8, which is the highest ever sown with jute. Since then, however, the area under jute has been subject to violent fluctuations, the record figure of 1907-8 having been approached once only, which was in 1926-27. (It may be pointed out that the jute year, 1925-26, was one in which prices reached unprecedented levels). In 1937-38, the jute area was estimated at 2,888,000 acres. (8—9)

8. Many foreign countries have attempted to grow jute, but few have met with any success. Formosa is a notable exception, having had in 1937, a jute area of 12,800 acres and about 60,000 acres in 1939. The total quantity of jute grown outside India is estimated at 40,000 tons or about 2.6 per cent. of the total world supplies (10—17)

Chapter I—Supply.

9. Jute is an annual plant of the natural order of Tiliaceae belonging to the genus *Corchorus*. It is a rainy season crop sown from mid February to mid May, according to the situation of the land, and harvested from mid June until September. The plant thrives best in damp heat, the soil most suited to its growth being loam or sandy loam. (18)

10. The area under jute cultivation in the whole of India was estimated at 2,889,000 acres in 1937-38. Bengal is the most important jute growing province and, according to official estimates, was responsible for 76.5 per cent. of the all-India jute acreage in 1937-38. The other jute growing provinces are Bihar, Assam and Orissa which respectively accounted for 15.4, 7.6 and 0.5 per cent. of the estimated all-India jute acreage in 1937-38. Jute is also grown to some extent in the United Provinces and Madras where it is mostly consumed by the local mills. (19—24)

11. The estimates of provincial jute acreage are collected under instruction from the respective Directors of Agriculture and are published in a consolidated form, called the 'Preliminary Forecast,' between the 7th and 15th of July each year. (25—26) About two months later, i.e. by 21st September, a 'Final Forecast' is published containing the latest estimates of area under jute as well as those of outturn. (54)

12. That the forecasts are of little value as correct estimations of the outturn of the jute crop is borne out by the fact that the official estimate usually falls far short of the visible supply, an error of 37 per cent. having been recorded. (55—56) It appears that the yields per acre adopted for forecasting the total outturn, as well as the estimated jute acreage, are both responsible for this state of affairs. (50—33)

13. The former are primarily based on the standard yields for each district, modified in the light of the results of the annual crop cutting experiments and the seasonal condition factor. This system, however, is not quite satisfactory as there does not seem to be any justification for introducing the last factor. The crop cutting results obviously carry the imprint of the weather prevailing during the cultivation and harvesting seasons. Moreover, the effects of the seasonal condition factor are calculated in an arbitrary manner. (49—51).

14. The second defect lies in the method of estimating the area sown with jute. Figures are initially collected by Union

Board *chowkidars* and are mostly passed on unchecked and uncorrected year after year. (27) The inaccuracy of the forecast jute acreage was realised by the governments of the jute growing provinces. Surveys of jute areas were subsequently carried out in Bihar, Orissa and Assam, but discrepancies between the forecast estimates of outturn and visible supply still persist. (28—31, 33—37)

15. In Bengal, experiments for the correct estimation of jute areas were undertaken during the last few years under the joint auspices of the Bengal Government and the Indian Central Jute Committee. At an early date, random sampling survey all over the province is under contemplation, and it is expected that satisfactory acreage figures will be forthcoming through the adoption of this method. (32, 38)

16. The final results of the scheme, now being tried out in Bengal, will be awaited with interest. If they prove satisfactory and enable a correct estimation of jute area, similar schemes may be adopted in other provinces. Random sampling survey will have to be undertaken each year in order to keep the acreage estimates up to date.

17. A sufficiently large number of crop cutting experiments should be undertaken each year in all the growing districts of the various provinces. Care should be taken to render these experiments as representative of the growing conditions as possible. The number of tests should be gradually increased to one for every thousand acres of jute land. (49)

18. This would establish, beyond all doubt, the reliability of the resultant yields which should be finally adopted for the calculation of production in each province. (50)

19. In view of the fact that the standing crop may sometimes be damaged, it is desirable that the area harvested for fibre in each district should be shown in the forecast either separately or as a percentage of the area sown. In the case of the area damaged, the extent of the loss should be given in terms of annas. (51)

20. The stocks held by growers are at present indicated in the forecasts in vague terms. To be of practical value, they should be shown as percentages of the previous season's crop. (25)

21. Often there have been violent fluctuations in the estimated jute acreage. It has been noticed that the sowings of jute in a particular year are mainly influenced by the prices prevailing during the last quarter of the preceding year and the first quarter of the new year. (39—41)

22. With a view to guiding the growers in the matter of their jute sowings, we recommend that the probable world demand for jute should be estimated each year by a competent body. The Provincial Governments should then be requested to restrict the cultivation of jute accordingly. Stocks, both in India and abroad, possible damage through adverse weather conditions, etc., should be given due consideration before arriving at the final acreage to be sown in various parts of India. The scheme for the registration of jute holdings, started by the Government of Bengal, should provide valuable experience and data for the future.

23. Low prices, in many cases, have resulted in the restriction of jute cultivation, but it is significant that if these were maintained for two or three seasons the growers increased their jute holdings. This is apparently due to the absence of an equally remunerative crop. (42) It is recommended, therefore, that substitute cash crops should be developed by the Departments of Agriculture.

24. There are several species of jute of which *Capsularis* (white) and *Olitorius* (both *tossa* and *diasee*) are the only two of any real commercial importance, and are grown in proportions of three to one. The former is grown on all types of land while the latter thrives on high lands only. (43—46)

25. The price premium which *tossa* sometimes commands may act as an incentive for its indiscriminate cultivation on unsuitable lands. This tendency, when noticeable, should be discouraged as the *Olitorius* plants are susceptible to damage by excessive rainfall and floods.

26. The general belief that the *Olitorius* variety yields more fibre is not borne out by the Enquiry. In 1937-38, the average yield of *Capsularis* was found to be 12.7 mds. per acre, and of *Olitorius* 10.4 mds. (46) It is desirable, therefore, that this should be verified by crop cutting experiments undertaken separately for the two varieties. It will also be more helpful if the estimates of jute area and outturn are published in the forecasts according to variety.

Chapter II—Preparation for Market.

27. Jute plants are best harvested soon after they shed their blooms. (58—60) The type of water used for steeping and the care taken in retting, stripping, washing and drying are mainly responsible for the high or low quality of fibre produced. (62—66)

28. It is reported that the steeping of plants without shedding leaves makes the resultant fibre 'croppy'. (61) Again, the weighing down of bundles with clods of earth at the time of steeping discolours the fibre, while covering them with water hyacinth expedites retting. (67) The method of stripping by beating tends to make the fibre hairy. (69)

29. The average expenses involved in the preparation of fibre ranged between Rs. 1-15-0 to Rs. 2-1-4 per maund in Bengal, and were Rs. 1-13-9 and Rs. 2-1-2 per maund in Bihar and Assam respectively. They were lowest, Rs. 1-2-0 per maund, in Orissa because of the low wages there. (71—74) Any reduction in the cost of preparation would be of great value to growers, and any improvement in yield or quality of fibre would ensure a better return to them.

30. Various problems, connected with cultural operations and the methods of preparation of fibre, are receiving the attention of the Agricultural Research Section of the Indian Central Jute Committee. After the determination of improved methods which may lead to higher yield and better quality, intensive demonstration and propaganda should be undertaken to induce growers to adopt them.

31. The Enquiry has established that in the marketing season 1937-38, more than two-thirds of the crop was disposed of by producers within the first three to four months. The early sale of such a large proportion of jute by growers was due mainly to the lack of holding power, and was aggravated by the difficulties of transport and the dearth of storage facilities in villages. (75—90)

Chapter III—Assembling.

32. The movement of jute from the producer to consumer takes place in three stages. The first stage is from villages to the primary assembling markets, the second from rural areas to the baling centres and the third from upcountry markets to the loose jute markets of Calcutta, the mills and *pucca* balers. During the

season 1937-38, the growers disposed of 75 per cent. of the marketable surplus of jute in villages, 20 per cent. in primary markets and *hats* and only 5 per cent. in baling centres. (91)

33. The various types of intermediaries—*paikars*, *farias* and *beparis*—purchase jute from growers in villages and *hats* and dispose of the same to one of their own fraternity in primary markets or, as is generally the case, to the *kutchas* balers in secondary markets. Their operations are responsible for fibre changing hands many a time before it reaches the *kutchas* balers. (92—93 Direct contact between producers and the ultimate buyers upcountry is the ideal to be aimed at. But, in view of the difficulties of rural transport and the smallness of the quantity tendered for sale at one time by an average grower, the elimination of peripatetic dealers is not practicable and cannot be recommended.

34. Brokers and *aratdars* operating in some secondary markets appear to be superfluous. Under the system prevailing in these places, fibre is sold twice in the same market, thus involving unnecessary handling and transport expenses not to mention the margin of profit for each functionary. (94-101)

35. The ultimate buyers in the upcountry markets are the *kutchas* balers who undertake the preparation of jute for sale to mills and *pucca* balers. This involves the selection of jute into the various commercial grades and its packing, into what are known as *kutchas* balers. The majority consists of merchants of essentially local importance with annual turnovers of 50,000 to 40,000 maunds. It is, however, the large Indian and European baling firms, which maintain central baling establishments in important markets, that exert considerable influence over the marketing of jute upcountry. Next in importance are the representatives of some European and Indian mills and a few *pucca* balers. (102—107)

36. The mills and *pucca* balers are the ultimate buyers of loose jute in Calcutta. The former usually buy on the basis of forward delivery contracts direct from *kutchas* balers through the medium of brokers. The *pucca* balers, on the other hand, purchase most of their requirements the loose jute markets of Cossipore, Hatkhola and Shambazar, where the local *aratdars* act as agents of upcountry merchants. (108-116, 138-145)

37. The sale in villages by growers, of about 75 per cent. of the marketable surplus, is attributable to the pressing demands

of their creditors, difficulties of rural transport and the small quantities of jute offered for sale at one time by an average cultivator. The other factors responsible for the growers keeping away from baling centres are the existence of various market allowances, the arbitrary deductions made by buyers, the alleged fraudulent weighings and the absence of storage facilities for growers. (117—124)

38. The remedy for many of these evils would appear to lie in the establishment of Regulated Markets, similar to those functioning in Bombay and the Central Provinces. It is not necessary to prepare a scheme for this purpose as the matter has received the close attention of the two Jute Enquiry Committees of Bengal, and also because a Bill to this effect is at present before the Bengal Legislature. In the initial stages, however, it will be advisable to start such markets at a few representative centres only. Later, in the light of experience gained, the schemes could be extended to other places. Unnecessary delay in giving effect to this recommendation should be avoided.

39. Prior to 1936, when the Bengal Agricultural Debtors Act was enforced, the growers used to borrow from *farias* and *beparis* as also from professional money-lenders. The Act has been responsible, to some extent at least, for the shrinkage of agricultural credit. It should be the concern of the Provincial Governments to devise means of advancing short-term loans to agriculturists through village co-operative societies. (191-196)

40. As no storage facilities are provided for growers in the markets, they often part with their fibre even if the prices are somewhat below their expectations. (124). Thus, a clear case is made out for the setting up of warehouses at important baling centres. Subsequently, arrangements could be made with banks to advance money against warehouse receipts.

41. The Central and Bengal Banking Enquiry Committees and the two Bengal Jute Enquiry Committees of 1933 and 1939, examined the question of establishing licensed warehouses in considerable detail. The draft Bill drawn up by the late Mr. B. F. Madan, a member of the Central Banking Enquiry Committee, offers a good basis for evolving final schemes which would suit local conditions in the individual provinces.

42. Attempts should continuously be made to bring producers closer to ultimate consumers. This could be attained through the establishment of a chain of Co-operative Jute Sale

Societies—primary units in villages, Central Societies at secondary markets and a Wholesale Society at Calcutta.

43. Bengal has had an unfortunate experience of such institutions. (202) But failure of those societies was due to working on wrong lines, and not on account of any fundamental defects in the principles underlying the co-operative movement.

44. The future societies should be started after (a) intensive propaganda has been carried out among growers, (b) adequate staff has been trained, and (c) arrangements have been made with the different firms of consumers and exporters of raw jute in Calcutta. Management should not be allowed to pass into the hands of persons representing buying interests in any form whatsoever. And, such societies should merely act as the selling agents of growers and not buy the jute outright.

45. The upcountry markets fall under three categories, viz. villages, *hats* and primary markets and *kutchas* baling centres. There are no special markets for jute in villages, and the peripatetic dealers transact business with individual growers. The main feature of village sales is that the buyer approaches the seller and no secrecy is maintained regarding the negotiations. (125, 126)

46. The primary markets and *hats* are usually situated in larger villages where well-to-do *beparis* and representatives of *kutchas* balers operate as buyers. While the former are continuous markets with a certain amount of storage accommodation, the latter are periodical markets generally held in the open. The real importance of these places lies in the fact that they serve as ready markets for the disposal of jute. (127—131)

47. Secondary markets (baling centres) are the final assembling centres for jute upcountry; and are usually located at places where communications are good. The chief buyers in these markets are *kutchas* balers who purchase their requirements from *beparis* and *araldars*, and occasionally only from growers. The usual method of buying jute is on the basis of an 'estimation' of grade outturn while in several important markets buying is carried out on the basis of 'actual' grade outturn. The importance of the secondary markets lies in the fact that they serve as a link between the producers and consumers. (132—135)

48. In view of the arbitrary nature of deductions made for inferior quality and excess moisture, it is desirable that prices be fixed on assortment basis. Further, the assessment of the excess moisture should be done by some more satisfactory method than

by mere feel. This point has been discussed more fully later on.

49. In 1937-38, out of the 74.9 per cent. of the marketable surplus disposed of by growers in villages, 64.6 per cent. was bought by *beparis* and 10.3 per cent. by the agents of *kutch* balers. While the purchases by the agents were all taken to the baling centres, the *beparis* sold 19.7 per cent. in primary markets and *hats* and the balance 44.9 per cent. in baling centres. (136)

50. The quantity sold in primary markets and *hats* amounted to 39.6 per cent., i.e. 19.9 per cent. by growers and 19.7 per cent. by *beparis*. Out of this, 18.6 per cent. and 13.5 per cent. were purchased for the *kutch* balers by their agents and *beparis* respectively, 6.2 per cent. was taken direct to mills and *pucca* balers while 1.3 per cent. was taken up by *beparis* for sale in Shambazar market. (136)

51. The arrivals in the secondary markets (baling centres) amounted to 92.5 per cent., being 60.4 per cent. from villages and 32.1 per cent. from primary markets and *hats*. The *kutch* balers sold 54.8 per cent. and 12.2 per cent. direct to mills and *pucca* balers respectively, marketed 17.7 per cent. at Cossipore and Hatkhola and carried over 7.8 per cent. to the next season. The total purchases of the mills thus amounted to 57.9 per cent. and those of the *pucca* balers to 34.3 per cent. of the marketable surplus in 1937-38. (137)

52. The institution of Co-operative Sale Societies recommended earlier is all the more necessary as jute growers, whose very existence depends upon the return they get from that crop, are at present unorganized. The peripatetic dealers in various markets, although they have no corporate society or association of their own, often act in a concerted manner, and the same may be said of *araidars*. *Kutch* balers are in a more advantageous position, they frequently work in unison in their own markets, and the important firms are usually connected with trade associations in Calcutta. (146—151)

53. The ultimate buyers in Calcutta—mills and *pucca* balers—have their own separate organizations. The Indian Jute Mills Association, representing about 96 per cent. of the total loomage in India, exercises great influence in the general conduct of the loose jute trade. (152—157)

54. Futures transactions are considered necessary in a system involving forward trading which is a feature of modern

trade. 'Hedging' operations serve to minimize any loss resulting from sudden fluctuations in prices. Opinion is, however, divided as to the necessity of a futures market for jute. (158—160)

55. There are three jute futures markets in Calcutta, viz. the East India Jute Association, the Calcutta Jute Exchange and the *Katni* market. The last named is an organization of doubtful utility, and the unit of transaction—5 bales—is too low to be of any practical value for hedging purposes. (173) Transactions in the second association take place on the basis of 50 bales which, again, is low for genuine futures trading. (172) The result is that the *Katni* market and the Calcutta Jute Exchange lend themselves freely to gambling operations. It would appear to be for the benefit of the jute trade as a whole if they are suppressed, and only one big organization is allowed to function for the purposes of jute futures.

56. The East India Jute Association is the most important futures market. Its Board of Control consists of representatives of the various trade interests, including the Indian Jute Mills Association, and exercises supervising authority on the working and administration of the Association. The Calcutta Baled Jute Associations' representatives are the most notable absentees from the Board since 1938. (161—166)

57. Although the East India Jute Association is a great improvement, in ways more than one, on other futures organizations, its constitution leaves much to be desired. The lines of reform should be as follows. (167—171)

58. The adoption of *pucca* bales as the basis of transaction has deprived the mills in India—the biggest consumers of raw jute—of hedging facilities. The present grades of loose jute—Top, Middle and Bottom—are intended to be permanent. They have successfully stood the test of two seasons and may be adopted for futures trading.

59. Operations in the futures market, by persons without any genuine interest in jute often have a disturbing effect on trade which results in violent and unnecessary fluctuations in prices. One possible line of reform lies in confining transactions to members only.

60. If possible, the unit of transaction may be increased to 500 bales. Further, all transactions should be recorded on approved contract forms and duty stamped.

61. It is also recommended that the Association should keep a record of all transaction and should report the weekly turnover in the market to the Board of Control.

62. As a commodity exchange can play useful part in the trade, it is desirable that it should be a strong organization representative of all interests. It should be above suspicion and may not lend itself to manipulation by individuals or groups. If such a futures market cannot be successfully established by the jute trade, it is the duty of the government to intervene. In that case, necessary legislation should be passed to set up a central jute exchange and to provide for its proper functioning and supervision.

63. A large number of deductions and allowances both in cash and kind exist in the jute trade and are borne by sellers. These prevail in a large number of baling centres but are nominal in primary markets and *hats* and pactly non-existent in villages. All the market allowances are of arbitrary character, and their total value, when calculated on the basis of Rs. 5 per maund—the average prices of jute upcountry in 1937-38—varied from Rs. 5-5-0 per 100 maunds in Netrakona (Mymensingh) to Rs. 29-11-0 in Magura (Jessore). *Dhalta* is the most common of all, and was found to be charged in 57 per cent. of the markets where enquiries were made. (174-188)

64. The fact that market allowances are not uniform in all baling centres—actually there are places where none are charged—leads to the conclusion that these are nothing short of impositions on growers. It is desirable, therefore, that all market allowances be abolished, if for nothing else, in order to establish mutual trust between buyers and sellers. This reform should be introduced through legislation as early as practicable, and need not be postponed till regulated markets have been established all over the jute growing provinces. An adequate staff will have to be appointed to supervise the working of this scheme.

65. The impositions on the sellers in the terminal markets of Calcutta are not as numerous as those upcountry. Their total value however, is, considerable and when calculated on the basis of Rs. 6 per md.—the average price of jute in Calcutta in 1937-38—amounts to Rs. 19-3-6 per 100 maunds in Hatkhola, Rs. 24-1-0 in Cossipore and Rs. 32-8-0 in Shambazar. (189—190)

Chapter IV—Handling and Transportation.

66. Handling operations in villages and *hats*, that is the weighing of fibre and its loading in carts or boats, are usually performed jointly by sellers and buyers. Therefore, the money spent on wages in this connection is small, amounting to 3 pies per maund at each place when hired labour is engaged.

67. At secondary markets, various types of handling operations—unloading, weighing, selecting, baling and exporting—become necessary, and form an important item in the expenditure incurred on the movement of jute from the producer to consumer. The costs, ranging between Re. 0-1-1 and Re. 0-2-3 per maund, average Re. 0-1-6 per maund. (206—218) In the *daisce* districts, jute is packed into 'drums' and the total handling expenses amount to Re. 0-1-9 per maund. (220)

68. Handling expenses in terminal markets vary considerably, amounting to 9.2 pies per maund at Cossipore, Re. 0-1-10 at Hatkhola, 9.8 pies at Shambazar and only 6 pies per maund at mills and press houses. (221-224)

69. The expenses of balers on account of their establishments, the maintenance of premises and the marketing of jute in Calcutta are called 'standing charges.' This item costs the European and Indian balers Re. 0-4-0 and Re. 0-2-0 per maund respectively in upcountry markets and Re. 0-2-0 per maund in Calcutta. As the standing charges have a direct bearing on the efficient working of their firms, it is for *kutchá* balers alone to decide if any reduction is feasible. (219, 225)

70. On the basis of Rs. 6-0-0 per maund, being the average price of jute in Calcutta during season 1937-38, the total handling expenses (from villages to Calcutta) amount from 6.0 to 8.7 per cent. of the value of fibre sold directly to mills and balers, 7.9 and 7.1 per cent. respectively at Cossipore and Hatkhola and 8.2 per cent. at Shambazar. (226—227)

71. Transportation of jute from villages to secondary markets is deplorably slow, and is mainly carried out by country boats in East Bengal and parts of Assam, and by bullock carts in the rest of the jute growing tracts. The employment of coolies and pack animals for rural transport is confined to such areas only as are situated away from river routes and where traffic by carts is impracticable. (228—238)

72. In East Bengal, transport facilities exist for a limited period only, from July to October, when *bheels* and *khals* fill up

with flood water. Growers own small open craft which are hardly suitable for navigation in flooded rivers, therefore the bulk of jute is conveyed to baling centres by *beparis* in large covered country boats. (232—234)

73. At best, the roads in jute growing areas are mere fair-weather tracks, which deteriorate with the advent of the monsoon and remain in poor condition during the peak months of the marketing season, i.e. September to November. The difficulties of rural road transport are aggravated by inadequate ferry arrangements at many points along the routes where rivers are unbridged. (231)

74. As pointed out by the Royal Commission on Agriculture, improvement in rural communication is a most important factor in rural development. And, that, subsidiary communications are of the greatest importance from the point of view of the cultivator. It is desirable, therefore, that the government and the local self-governing bodies should devise means for the improvement of communications, at least in areas having concentrated jute cultivation.

75. The average cost of transport amounts to 1.9 pies and 3.0 pies per mile per maund by boats and carts respectively, 4.4 pies by pack animals and 8.2 pies by coolies. (239)

76. Communications from baling centres to Calcutta, however, are regular and the means of transport employed are dependable. On the average of 5 years, 1934-35 to 1938-39, steamers and railways conveyed 52 per cent. and 43 per cent. respectively of the total arrivals in Calcutta, while country boats accounted for 3 per cent. and bullock carts and lorries for the balance 2 per cent. (240—243)

77. Markets in the riverine districts of East Bengal and Assam are served by steamers. The fibre, mostly in *kutch* bales is loaded in flats—which may be described as floating godowns—and barges—flat bottomed covered iron boats—which are towed by steamers. Six steamer companies are engaged in river transport in Bengal and Assam. Of these, four—I.G.N., R.S.N., B.A.S. and E.B.R.S.—enjoy the exclusive right of carrying jute by river route for the members of the Indian Jute Mills and the Calcutta Baled Jute Associations, and are known as 'conference' companies. (244—246)

78. The freight rates charged by the 'conference' steamer companies are the outcome of a series of agreements, first made in 1890 between them and the Indian Jute Mills Associations,

The Calcutta Baled Jute Association entered into a similar agreement with the steamer companies in 1929. The basic rate in operation at present for baled jute is Re. 0-10-0 per maund from July to December and Re. 0-7-3 per maund from January to June, subject to a discount of 25 per cent. for *pucca* bales and 22½ and 20 per cent. for 4 maund and 3½ maund bales respectively. (247—251)

79. In addition, the *kutchā* balers are entitled to a rebate, from selected stations, ranging between Re. 0-1-0 to Re. 0-2-6 per maund, provided they send all their consignments through the services provided by the 'conference' companies. The buyers are entitled to a 'quick unloading' rebate on a graduated scale. In addition, they also get a 'full flat-load' rebate if they receive at least 14,000 maunds of jute in one flat, from one station and consigned by one firm of *kutchā* balers. (250—252)

80. Country boats handle a small percentage of the river borne traffic, mostly from markets which are not on the steamer route. The freight charged by country boats is a matter of mutual agreement between the *kutchā* baler and the boatman, therefore it is not possible to quote any basic rates. (253)

81. Some parts of East Bengal, most of the jute areas in North and West Bengal, a portion of Assam and Bihar and Orissa as a whole are served by railways. The fibre is conveyed in covered wagons of varying capacities. The Eastern Bengal Railway running on broad and metre gauge, and the Assam Bengal Railway on metre gauge extend over practically the whole of the jute growing areas of Bengal, Bihar and Assam. And, traffic from the *daisee* districts in the neighbourhood of Calcutta is handled by light railways running on narrow gauge. (254—258).

82. As steamer service is slow, with a view to accelerate delivery a combined steamer and railway service operates between markets in riverine areas and Calcutta. The fibre is brought part of the way in flats and barges and is transferred at certain transshipment points to railways which convey the goods to their destination. The Eastern Bengal Railway arranges delivery either at mill and press sidings, or at the buyers' jetties or godowns by means of barges or lorries respectively. (259—262)

83. Jute is classed by the Railway Board as a sixth class commodity, and the maximum and minimum rates have been fixed at .83 pies and .166 pies per mile per maund respectively. The E.B.R. and the other railways quote special rates from a

large number of stations, both for loose and baled jute. The special rates are generally fixed according to the amount of competition by other means of transport. Where special rates are not quoted, freight is charged at the maximum rate of .83 pies per mile per maund, baled jute being subject to the discounts mentioned in connection with steamer freights. (263)

84. Motor lorries are being increasingly employed for transporting jute from the markets of the neighbouring *daisee* districts to Calcutta. The cost of motor transport, as recorded during the Enquiry, varies between one and one and a half pies per mile per maund the rates being usually settled by mutual agreement between the hirer and the transport agency. Motor lorries, though the quickest means of transport for comparatively short distances, cannot be employed in most of the jute districts on account of the paucity of metalled roads and bridges. (264)

85. A comparison of the quantities of jute handled by steamers and railways in recent years, discloses the fact that the former have carried increasingly larger amounts at the expense of the latter. The higher railway freight and the various rebates allowed by the steamer companies appear to be responsible for this state of affairs. (272-273)

86. Complaints have been made by the trade on various occasions that during the years 1930 to 1938, when the price of jute was low, the freights—both steamer and railway—remained comparatively high. It is, therefore, recommended that there should be a periodical revision of freight rates with a view to the adjustment of their incidence as between various sorts of produce according to their ability to bear.

87. Further, both the railways and steamer companies have frequently reduced their rates from stations where competition by other means of transport was proving a real danger or was likely to be so in the near future. In fact the rebates granted by the 'conference' companies from 1934 were largely due to competition by outside steamer companies and country boats. It would appear therefore that it is in the interests of the trade to foster as far as possible healthy competition between the different means of transport.

88. The desirability of continuing jute carriage agreements is a matter which should be seriously considered by the carrying companies and the trade. It should however be the aim of the latter to obtain the lowest possible rates in all cases both for rail and river transport.

Chapter V—Classification, Grading and Standardization.

89. The quality of jute is judged by its spinning characteristics,—i.e. its suitability for spinning into various types of yarn—the fibre which spins into finest yarn being considered to have the best spinning quality. As the quality of jute changes considerably even within small areas, the trade, in order to facilitate marketing, has evolved certain methods for distinguishing fibres suitable for various types of yarn. (277).

90. The first distinction is made according to the variety of jute, viz., *Corchorus capsularis* (white jute) and *Corchorus olitorius* (*tossa* and *daisee*) each of which has peculiar characteristics of colour, strength and fineness of fibre strands. The *daisee* fibre though belonging to the *Olitorius* variety is somewhat different from *Tossa* and is regarded by the trade as a separate variety. (279).

91. Again, certain special features of quality, common to the fibres of these varieties grown in the different jute areas, have led to the classification of jute according to its geographical distribution. The various commercial classes of jute in order of their spinning quality are *Jat District, Northern, Assam, Western Dowrah, Jungli and Orissa*. (280—282).

92. Apparently, classification is based on the experience of the consumers. But experiments are now being conducted by the Technological Research Laboratories of the Indian Central Jute Committee to evolve a method of classification on scientific basis, and also to determine the relative spinning qualities of the different classes of jute.

93. Each class of jute is at present divided according to its quality factors—strength, colour, proportion of roots, length—into three commercial grades, viz. 'Top,' 'Middle' and 'Bottom.' (289, 294).

94. The fibre is sold in upcountry markets in a completely unassorted condition and grading is done for the first time by *kutch*a balers. *Beparis* buying in villages and *hats* assess the value of jute by estimating its grade outturn. (289—294). The *kutch*a balers generally adopt the same system, though in some markets transactions are completed after the actual assortment of fibre in various commercial grades. The former system naturally leads to an underestimation of quality by buyers. (303).

95. It is recommended, therefore, that sale by assortment should be universally adopted in the *mofussil* markets. This will

necessitate the introduction of grading in villages. Considerable propaganda and demonstration will be required to convince the growers of the utility of this scheme and to teach them the method of grading. Later on, this work may be conveniently undertaken by the jute sale societies.

96. Attention may be drawn to two malpractices prevailing in the jute trade upcountry, namely, the watering of jute and the adulteration of qualities. Large quantities of fibre reaching the mills and *pucca* balers contain excessive moisture. It has been established that growers do not usually offer wet jute for sale, and that it is *beparis*—often *araddars* as well—who water it in order to increase the weight and thereby ensure a larger margin of profit. *Kutchu* balers have their commitments to meet and cannot at all times refuse to buy wet jute. (296—298)

97. The extent of excess moisture is assessed in upcountry markets generally by feel, and sometimes by exposing fibre to the sun and reweighing it afterwards to estimate the loss in weight. The latter practice is also common in Calcutta mills and presses. (296, 312)

98. The watering of jute is a reprehensible practice and, since the endeavours of the trade have proved ineffective, it is desirable that it be stopped by legislation. But, before any remedial measure is actually adopted, some scientific technique to determine the extent of excess moisture should be worked out. In this connection, the Technological Research Laboratories, both of the Indian Central Jute Committee and the Indian Jute Mills Association, are now collaborating and the result of their work will undoubtedly prove of great value.

99. The estimation of excess moisture depends on the correct determination of the amount of natural moisture present in a particular lot of fibre. As this varies, at a particular temperature, according to the extent of humidity in the air, it would be more useful if the experiments are conducted in such a manner as to find out the amount of natural moisture during each month of the season—at least in Calcutta where all claims for moisture are made—and also whether it differs according to variety and class of jute. (286, 287)

100. The other malpractice, i.e. the adulteration of qualities, may also be attributed to the desire of *beparis* and *kutchu* balers to profit by unfair means. Their *modus operandi* is to buy lower class jute and dispose of it in markets of better class fibre. A considerable quantity of Assam and North Bengal jute

is thus sold every year as *jat* and *district* respectively. (299—302)

101. This practice is so widespread that it has led to a general complaint by consumers that the quality of jute is deteriorating. (288) In order to put a stop to adulteration, it would seem that legislation on the lines of the Cotton Transport Act of 1923, which prohibits the importation of inferior cotton into areas which produce a superior quality, offers the greatest chance of success. Simultaneously, the classification of jute on scientific lines—as recommended earlier—and the fixation of price differences accordingly—discussed later in this chapter—should also be proceeded with.

102. The standards for loose jute grades are fixed by a joint committee of the Indian Jute Mills and the Calcutta Jute Dealers Associations. Although intended to be permanent, the specifications for various grades have in the past changed from year to year and sometimes even within the same season. (305, 306)

103. Prior to 1937-38, the standards were based on a warp yarn guarantee, but since then these have been specified by percentages of cuttings. In 1937-38, there were five grades, viz. 3's, 4's, R's, T.J. and S. But, early in that season, a number of *kutchā* balers, who had sold R's, could not get the heavily rooted fibre fit for inclusion in that grade. In order to meet their commitments, therefore, they tendered 4's instead. This had the effect of raising the standards, and as the season advanced 3's disappeared from the list of sales and 4's were seldom quoted, thus for all practical purposes R's became the top mark. (306, 307)

104. It was realized that these changes were proving a disturbing feature, and with a view to make the grades permanent it was decided to standardize the bottom grade in a manner which would leave no room for alteration. Consequently, in August 1938, three grades—top, middle, bottom—were fixed and proved satisfactory. The same grades continued during season 1939-40. (308, 309)

105. Though the standards fixed in 1938 have worked satisfactorily for two seasons and are intended to be permanent, the specifications for the respective grades do not indicate clearly the various factors which affect the spinning quality of jute. The terms 'sound fibre' and 'good colour of the district' are open to different interpretations and may lead to arbitrary assessment

of quality. Moreover, the percentage of cutting may serve only to indicate the proportion of fibre fit for yarns other than sacking weft and not as an index to any of the quality factors.

106. In view of these weaknesses in the present methods of grading, it seems desirable that the position regarding the basis of loose jute standards should be examined carefully to see if these cannot be set in a more technical manner which would be acceptable to all branches of the trade.

107. Occasions arise when mills and *pucca* balers do not feel satisfied with the quality, weight and moisture content of the jute tendered by their sellers. The majority of the resultant claims are settled amicably between the buyers and sellers. But, in case of disagreement, the matter is referred to the Tribunal of Arbitration of the Bengal Chamber of Commerce. (310—316)

108. If in the future it is intended to change, or effect some improvement in, the method of fixing and maintaining loose jute standards, a system of settling disputes by entirely impartial methods should also be introduced. The system followed by the East India Cotton Association may act as a useful guide in this connection. Under the Bombay method, all arbitrations are blind, and arbitrators are guided in making awards by having available comparative samples of standards of each class of fibre sold in the market.

Chapter VI—Conservation.

109. It has been established by the Enquiry that an average grower cannot hold his jute for better prices and disposes of his crop before December each year. *Beparis* operating as agents of *kutchha* balers do not have any occasion to conserve fibre, while those buying on their own behalf do not usually store for more than 3 to 4 months. Therefore, it is only the wealthy growers and *beparis*, the well-financed *araidars* and the *kutchha* balers who are in a position to conserve jute from one season to another. (317—320)

110. A recommendation for the establishment of licensed warehouses has already been made above. If the warehouse receipt is made a document of title, and co-operative credit societies and joint stock banks agree to grant loans against it, the holding power of growers will be much improved.

111. There is no special storage accommodation in villages and the growers' houses are utilized for this purpose. But, in

the secondary and most of the primary markets, godowns have been built by individuals and firms. They are generally corrugated iron sheet structures with *kutch*a or tarred floors. Godowns of solid brick construction, however, are not uncommon in large baling centres. Storage accommodation provided at the loose jute markets of Calcutta is similar to that available at upcountry, baling centres, while mills and *pucca* balers own strong well-built godowns, (321—330)

112. It is unfortunate that no definite data are available regarding the effect of storage on fibre. A condition precedent to storage is that the fibre should be free from excess moisture otherwise it will deteriorate both in colour and strength. It has been reported by the trade that jute stored in corrugated iron godowns throughout the hot weather loses as much as 3½ per cent. in weight, but if storage is continued until the following rainy season the fibre regains its weight to the extent of 1½ per cent. At mills and presses where jute is stored in well built godowns the average loss over a year is estimated to be about 2 per cent. (331—334)

113. Again, according to the trade, white *jat* jute stands storage well, retaining its original strength and colour even after three or four years. *Jat tossa*, on the other hand, deteriorates in colour. The superior *district* white jute also retains most of its original characteristics for a few years, whereas *district tossa* and the soft *Northern, Western* and other classes of fibre deteriorate quickly even when stored under the best conditions. (335—340)

114. The factors which affect the various classes of jute when stored under different conditions and the extent of deterioration in colour and quality are to be investigated by the technological section of the Indian Central Jute Committee and the results, it is hoped, will prove of benefit to the trade in general.

115. Figures of stocks upcountry are not collected by any official agency. A few of the larger jute firms, however, publish estimates of such stocks, but these are based on the reports of agents and intermediaries and cannot be considered reliable. (341, 342)

116. It need not be emphasized that stocks, both upcountry and in Calcutta, form part of the potential supply. Therefore, as recommended earlier in connection with the preparation of forecasts, it is desirable that consolidated estimates of stocks should be published periodically through an official agency. With

a view to introduce this much needed reform, the government should direct all jute merchants and consumers to declare their stocks to the department entrusted with this work. The District Agricultural Staff of the Indian Central Jute Committee could also be employed for checking the arrivals of jute at important markets, thus calculating from time to time the amounts of stocks left in the countryside with growers and dealers.

Chapter VII—Prices.

117. As jute is marketed upcountry in a completely unassorted form and is sold in Calcutta on the basis of fixed standards, the prices received by producers and those paid by consumers are not comparable. Another factor which accentuates the difficulties underlying such comparison is the speculative nature of the transactions effected by *kutchā balers*. (343—345)

118. The basic prices of jute in the *mofussil* are governed by those which consumers in Calcutta are ready to pay. The latter prices are usually the same as the quotations of the loose jute market, and are regarded by European balers upcountry as correct indications of the future trend of the market. But, Indian balers, mostly Marwaris, are commonly guided in their purchases by the movements of the futures market, and many *beparis* and *aradars* also follow their example. (346, 351—353)

119. Other things being equal, prices depend upon the variety, class and the quality characteristics—viz. strength, length, colour, excess moisture, etc.—of jute. In the upcountry markets, the price differences are based on the suitability of fibre for the various grades, but there are no fixed or well-defined rules to regulate prices according to variations in the factors which affect quality. In the Calcutta markets, however, trading is done on the basis of fixed standards. (347—350)

120. The various classes of jute differ from one another in their spinning qualities. As *jat* ranks first in the classification list, the prices of the other classes are expressed in terms of discount on its price. These discounts are not static: they vary according to the level of prices. (348, 349) Scientific classification, recommended earlier in the chapter, should lead, when accomplished, to the establishment of proper price difference for each class of fibre.

121. There is great overseas demand for *tossa jute due*, primarily, to its employment in special fabrics not commonly manufactured in India, and also because of its finer spinning

qualities. Therefore, it usually commands a price premium (over white jute) which fluctuates considerably even during the same season. (350)

122. In the *mofussil*, buyers generally make their offers after examining the various lots of jute and determining the likely grade outturns by estimation. Bargaining is done openly, and no secrecy is maintained about prices. Another method of price fixation is also adopted at a few large baling centres, when the price for any of the three grades is agreed upon, and the total value of fibre is calculated after actual assortment. (354, 355)

123. In the loose jute markets of Calcutta, prices are settled after buyers have inspected the fibre by opening a few bales or drums. Here, secrecy is maintained about the prices offered or paid. (356)

124. Owing to the insufficiency of data it has not been possible to establish any trend in the prices of jute upcountry. A comparison of harvest prices during the years 1932-33 to 1938-39, however, shows that these were at a low level during the first three years of the period under review, after which the prices advanced due to the improved position of the jute industry in India and abroad. The minimum price recorded during the seven years, was Rs. 3 per maund, the maximum being Rs. 7-4-0. (357—361)

125. It is highly desirable that permanent arrangements should be made for recording prices ruling in a number of representative villages, *hats*, primary markets and baling centres throughout the year. The information should be obtained from reliable sources and should be supplemented with figures of weekly or monthly arrivals and grade outturn for the corresponding period.

126. There is no independent source of market intelligence for growers, and they have to rely on peripatetic dealers for price information. The latter, in their turn, have to depend on *kutchas* balers who are well posted with the trend of prices in the Calcutta markets. The daily newspapers are of little value to the average illiterate grower, and are also beyond his means. This applies with greater force to the official and commercial journals which contain information mostly of academic interest. Thus, it is quite probable that growers' ignorance of market rates is exploited and so they obtain less than is justified by the prices prevailing in the markets. (362—368)

127. The importance of the dissemination of Calcutta prices

throughout the jute producing areas cannot be exaggerated. The price dissemination scheme of the Indian Central Jute Committee, started on an experimental basis in 1939, has from all accounts had encouraging results. It may, therefore, be extended without loss of time to all areas, particularly to those with heavy jute cultivation.

128. In this connection, attention may be drawn to the immense potentialities of wireless for rural development, in general, and for improving marketing conditions in particular. In the Central Provinces and the Punjab, a small number of radio sets have been installed in the countryside for the purpose of disseminating price information. (369) A similar scheme for jute might yield beneficial results and should be given serious consideration by the authorities.

129. A price structure has been prepared which embraces a review of six representative markets, and shows that the Calcutta landed price of jute averaged Rs. 6-3-5 per maund in October 1937. It appears that growers received a little under 81 per cent. of this amount, while 10.1 per cent. was spent on handling and transportation, 3 per cent. was paid as market allowances and 6.0 per cent. was absorbed as standing charges of *kutch* balers. (370—382)

Chapter VIII—Weights.

130. Stone weights are often used in villages and *hats*, while cast iron weights are universally employed in primary and secondary markets. (383)

131. Much confusion is caused owing to the existence of great diversity in the standards of weights, which range between 60 to 120 tolas per seer. It is not infrequent to find different units of weight prevailing in adjacent markets, thus making a comparison of prices difficult. Again, in certain markets, weighing is done on the basis of 80 tolas per seer and payment is made on the local unit of weight. The calculations involved in this process cannot be easily followed by the average grower. (384—387)

132. Hand scales, and sometimes spring balances as well, are employed in almost all villages and *hats*. Beam scales, both wooden and iron, are commonly used in primary and secondary markets. A number of balers at important centres have installed

weight-bridges similar to those employed by the mills and presses in Calcutta. (388—390)

133. Weighing is generally done at all stages by the buyer. When a large quantity of jute is offered for sale, buyers up-country sometimes weigh a few bundles in order to find out the average weight. Then, they count the rest of the bundles and calculate the total weight of the consignment. (391, 392)

134. Weighmen are generally considered to be partial to buyers by whom they are employed. It has been reported that often their remuneration depends upon ability to manipulate the scales. The practice of over-weighing was found to be fairly common in baling stations. And, in some markets, buyers charge sellers a weighing allowance which goes to meet the wages of their weighmen.

135. In view of this situation, it is necessary that the government of the various jute growing provinces should take early steps to enforce the provisions of the Standardization of Weights and Measures Act passed by the Government of India in 1937. (393) Subsequently, arrangements will have to be made for the occasional checking of weights and the methods of weighing. The ideal to be aimed at should be the imposition of the spirit of the law and not merely the fulfilment of the letter.

136. After regulated markets have been established, weighing should take place within the market compounds. It should be done by weighmen licensed by the market committees, which should also fix the weighing charges and check the weights and scales from time to time.

Chapter IX—Seeds.

137. It appears that there has always been a plentiful supply of seeds, even when the area under jute has increased by as much as 40 per cent. The low lying areas of East Bengal, where the plants are often harvested in an immature state, depend for their seed on high land districts. (394, 395)

138. The seed of the two varieties, *Corchorus capsularis* and *Corchorus olitorius*, are easily distinguished. The former are larger in size, oval shaped and deep brown in colour, while the latter are pyramidal and of a bluish brown colour. (396)

139. Where practicable, the great majority of growers produce their own seed, and often in excess of the individual requirements. On an average, about 4 per cent. of the total jute

area was retained for this purpose in 1937-38. Cultivators sell the surplus seed either to fellow villagers or to *beparis* and *bantias* who, in their turn, supply it to growers elsewhere. (397, 402)

140. The methods adopted by growers for seed production and preservation are generally perfunctory. Usually, small stunted plants are retained for the purpose, and seeds are preserved in earthen pots sealed with mud. Thus, the growers' seed is not conducive to high yield; and, as it germinates on an average to the extent of 65 per cent., the amount of seed sown per unit of area is high. The Enquiry has established that 64 per cent. of the total area under jute is sown with the growers' own seed, 35 per cent. with seed bought from *bantias* and *beparis*, and the remaining one per cent. with improved seed sold by the firm of agents appointed for the purpose by the Government of Bengal. (397, 402—403)

141. Considering that 99 per cent. of the total jute acreage is sown with seed produced by ordinary growers, it is desirable that intensive propaganda be undertaken to impress upon them the advantages of retaining healthy plants for seed purposes. At the same time, attempts should be made through demonstrations, to popularise better methods of seed preservation.

142. The quantity of seed required for sowing a unit of land depends upon the quality of seed and the fertility of the soil. The sowing rate per acre for growers' seed, according to the Enquiry, averages approximately 6 seers of *Capsularis* and 4 seers of *Olitorius*. On the basis of the average yields of seed per acre—4 mds. *Capsularis* and 3 mds. *Olitorius*—the total quantity of seed required for sowing 4,067,800 acres (the calculated all-India jute area in 1937-38) would amount to 455,000 and 102,000 maunds of *Capsularis* and *Olitorius* respectively. (404, 405)

143. The Fibre Expert appointed by the Government of Bengal in 1904, evolved, after considerable investigation and experimenting, two high yielding strains—Kakya Bombai (*C. capsularis*) and Chinsurah Green (*C. olitorius*). In 1917, the seeds of the two strains were distributed among the growers of Mymensingh and Dacca districts for multiplication purposes, and were in great demand in later years. (406, 407)

144. The trade, however, complained that the fibre of Kakya Bombai was harsh and brittle. Though the contention was not borne out by the results of the investigations undertaken by the

Department of Agriculture, Bengal, it led to the withdrawal of this strain and its substitution by D. 154 in 1923. At present, D.154 and Chinsurah Green are the best strains of *C. capsularis* and *C. olitorius* respectively. In 1937-38, Bengal had 53 per cent. of its calculated jute area under improved strains, Assam and Orissa had 6 and 2 per cent. respectively, while Bihar had none as there had been no distribution of special types of seeds. (407, 410)

145. Formerly, improved seeds were distributed in Bengal by the Department of Agriculture itself. But, as the demand assumed large proportions, the Government decided in 1923 to appoint an agent for that work. Consequently, an arrangement was made with Mr. A. L. Godden of Narayanganj whereby he accepted financial responsibility for the production and sale of seed while the Government kept a control over the quantity to be produced each year and undertook to test its quality. This system is reported to have worked well and is still in operation. (408, 409) The Agents obtain their supplies from the farms of old indigo planters in North Bihar who have now taken up seed multiplication and jute cultivation. The seeds are required to have a germination capacity of at least 96 per cent. (398, 403)

146. In 1937-38, the firm sold its *Capsularis* seed at Re. 0-12-0 per seer and *Olitorius* at Re. 1-0-0. In contrast with these, the lowest prices paid that year for bazar seed were reported to be one and a half anna per seer for *Capsularis* and about two annas for *Olitorius*. (402, 403)

147. Evidently, the high price of improved seed, due partly to limited supply and partly to the high germination value, was responsible for the fact that only one per cent. of the total jute area was sown with such seed in 1937-38. It is desirable, therefore, that investigations should be made to explore the possibilities of large scale production of improved seed on the high lands of North and West Bengal. Further, the necessity of a germination guarantee of 96 per cent. also deserves consideration. It is quite probable that by lowering this requirement, the supply of improved seed at cheaper prices may be ultimately increased. Even if the use of this seed leads to a higher sowing rate than that of the seed supplied at present by the Government Agents, the price will be so low that the growers will not have to incur heavy expenditure on this account.

148. Since 1939, the Agricultural Research Laboratories of the Indian Central Jute Committee have undertaken research on

the various aspects of jute cultivation. Special efforts are to be made to improve both the quality and yield of fibre. (412) As soon as definite results are available, the Government and the Committee should jointly make intensive efforts to popularise improved seed and supply it at low prices through their own Sales Depots. The sum of Rs. 50,000, which has been earmarked by the Indian Central Jute Committee for financing the supply of improved seed, could be utilized for this purpose.

Chapter X—Utilization and Demand.

149. It appears from a review of the ten years preceding the Enquiry, i.e. 1929-30 to 1938-39, that about 57 per cent. of the total annual production of jute in India was utilized by the mills in the country, 3 per cent. was consumed in villages and over 40 per cent. was exported to foreign countries. (413, 414)

150. During this period, the European countries, between them, imported about 79 per cent. of India's annual exports of raw jute, the prominent buyers being the United Kingdom with an average of 22 per cent. and Germany with 21.4 per cent., while France, Italy and Belgium accounted for 11, 8.7 and 8.1 per cent. respectively. During the years 1929-30 and 1930-31, Germany was the biggest importer, but since 1931-32 the United Kingdom has been the biggest individual buyer. (415)

151. Foreign countries utilized the fibre for the manufacture of ordinary packing material as well as high grade fabrics of various types. Though all classes of jute are in demand in overseas markets, the greater proportion of *jat* white, *jat* and *district* tossa and the bulk of *daisce* jute are usually exported. (415, 418)

152. Bengal is the main seat of jute industry in India: 72 mills, with about 96 per cent. of the Indian loomage, are established in the neighbourhood of Calcutta, and account for about 94 per cent. of the total Indian mill consumption. Bihar, Madras, U. P. and C. P. also have a few jute mills but they are of minor importance. (416)

153. The type of goods manufactured by mills in India are ordinary hessians, sackings, tarpaulins and canvas. They usually draw about 70 per cent. of their supplies from East Bengal *jat* and *district* areas, the balance being made up of *Northern*, *Assam*, *Western* and *daisce* jute. (419)

154. The consumption of jute in villages is confined to rope and string making, therefore any type of fibre is good enough for

the purpose. According to the Enquiry, about 3 per cent. of the all India production is consumed in the villages of jute growing provinces. (417, 420, 426)

155. During the seven years, 1932-33 to 1938-39, the annual world requirements were more or less equal to the average production of jute in India. The demand for the fibre is, however, a derived one and varies in accordance with the prospects of the agricultural crops and the output of mineral products for which jute bags are used as containers. (427)

156. Attempts are continually being made by various countries to utilize substitute fibres and cotton and paper bags for packing purposes. This necessitates the exploration of fresh avenues for the employment of jute. The Dundee manufacturers realized the danger long ago and have attained considerable success in the manufacture of 'specialities', e.g. curtains, upholstery, fabrics, carpets and even dress materials made wholly or partly of jute. In India, the recently established Technological Research Laboratories of the Indian Central Jute Committee and the Research Department of the Indian Jute Mills Association are also working in the same direction. It is hoped that the results will prove of great benefit to the jute industry as a whole. (427)



GLOSSARY

Aman paddy	...	Winter paddy, sown during August and September and harvested in December and January.
Anti	...	A small bundle of jute plants, generally 8 to 10 in number.
Arat	...	The godown, shop or premises of an <i>aratdar</i> .
Aratdar	...	An intermediate dealer established at certain upcountry and terminal markets. He may operate on his own account, or act as a commission agent for buyers and sellers.
Aratdari	...	The commission charged by the above dealer. It often includes a charge for storage.
Aus paddy	...	Summer paddy, sown in the month of April and harvested up to mid July.
Bachhat	...	An arbitrary deduction in kind claimed by buyers upcountry as a safeguard against possible loss in the event of fibre proving inferior to the sample on which the transaction was made.
Bania	...	A village shopkeeper, usually stocking provisions. He often acts as a money-lender as well.
Batching	...	This term is applied to the blending of fibre of various qualities to ensure uniformity in the strength and colour of the yarn produced. It also covers the subsequent process of adding oil and water to jute.
Bazar	...	Market.
Bepari	...	A peripatetic dealer who buys in villages, <i>hats</i> and primary markets either on his own account or on behalf of a baler or <i>aratdar</i> .

Bheel	...	A Bengali word for low land which gets inundated during the monsoon. Literally, the word means a swamp.
Bogi	...	The term used in East and North Bengal to describe tossa jute.
Bojha	...	A large bundle of jute fibre or plants.
Bottom	...	The lowest grade of loose jute (since 1938-39).
Bukchhal	...	The bark still remaining on the fibre due to plants having grown in flood water and having been exposed to the sun after the flood had receded.
Char lands	...	The low lying areas near the rivers, liable to inundation at the time of monsoon.
Chowkidar	...	A village watchman employed by the police department or the Union Boards.
Circle Officer	...	An executive officer in charge of a section (called 'circle') of a sub-division, specially entrusted with the supervision of Union Boards. He works under the Officer-in-charge of a Sub-division, commonly referred to as S.D.O.
Collector	...	An officer (of the Indian or Provincial Civil Service) in the administrative charge of a district.
Corchorus capsularis	...	One of the two cultivated species of jute, grown on low, medium and also on high lands, generally called by the trade 'white jute'.
Corchorus olitorius	...	The other cultivated species of jute, grown on high land only. Referred to by the trade as 'tossa', or in the case of jute from areas in the neighbourhood of Calcutta as 'daisee.'

Croppy	...	Fibre with the top ends rough and hard.
Daisee	...	Jute of the <i>Olitorius</i> variety, grown on high lands in the neighbourhood of Calcutta, i.e. in the districts of Howrah, Hooghly and 24 Parganas, and in the lower sections of Khulna, Jessore and Nadia.
Dalal	...	Broker.
Dalali	...	Brokerage.
Dazed	...	A trade expression used to describe fibre which is dull, lifeless and of inferior strength.
Dhalta	...	An allowance in kind deducted in order to compensate buyers for loss in weight resulting from assorting, baling and transporting jute. This allowance is the most common of all those prevailing in the jute areas.
Dhara	...	Literally meaning five seers. But in the jute trade in East and North Bengal, the term is used to signify a loose bundle of jute, tied at top ends and weighing about five seers. A great proportion of jute is made up into <i>dharas</i> at the time of sale upcountry.
District	...	Fibre of a slightly lower quality than <i>jat</i> , grown in Noakhali, lower Tippera, and parts of Dacca, Mymensingh, Faridpur and Bakarganj districts.
Doba	...	A pit prepared by a cultivator for retting jute.
Dowrah	...	Fibre produced in the Bakarganj and (lower) Faridpur districts. Harsh, short and heavily rooted, its quality is affected by the brackish water of that area.

Drum	...	Jute weighing about one maund, rolled up in the form of a drum. Practically all <i>daisee</i> jute is made up in this way when delivered to Calcutta markets and presses.
Estimation	...	Purchase on estimation means that the buyer estimates the probable grade outturn of the jute offered for sale and quotes his price accordingly.
Faria	...	A small-scale peripatetic dealer, ordinarily buying in villages; he may operate on his own account or work as an agent of a <i>bepari</i> or <i>aratdar</i> .
Fatka	...	A Marwari word meaning speculative transactions. In common parlance it refers to the operations in jute 'futures.'
Futures	...	Pertaining to 'hedging' transactions, or markets where such business is done.
Gachhkata	...	A large wooden beam scale fitted with wooden or cane pans.
Garsat	...	A Hindustani term denoting fair average quality. Similarly, <i>uncha-sat</i> for 'above average' and <i>nicha-sat</i> for 'below average.'
Ghat	...	A river landing stage or a ferry terminus.
Ghat charge	...	The charge levied for using a <i>ghat</i> .
Gola	...	A godown or shop with a compound.
Grid	...	When the area under survey is divided into a number of squares of equal dimensions, each square is called a grid.
Habbi Jabbi	...	A trade term formerly used to describe all jute not fit for inclusion even in the lowest grade.
Hard	...	When applied to jute, indicates fibre of firm texture free from fluffiness.

Hat	...	A periodical village bazar held generally once or twice a week.
Hedge	...	A transaction entered into with a view to insure merchants against loss caused by unexpected price fluctuations.
Hessian	...	Jute fabric of superior quality made from fine yarn.
Hundi	...	A bill of exchange or draft.
Hunka	...	Jute fibre from which the hard bark and dried bast of the plant has not been removed.
Jachandar	...	An assorter who turns over the jute to determine the quality of the fibre offered for sale.
Jachandari	...	A cash allowance levied by buyers ostensibly for their <i>jachandars</i> (assorters).
Jat	...	A term applied to the best quality jute, both <i>Capsularis</i> and <i>Olitorius</i> , grown in parts of Mymensingh, Dacca and Tippera.
Jungli	...	The trade name for the poor quality jute produced in parts of Murshidabad and Malda districts.
Kabari	...	A deduction in kind made by buyers for the benefit of their staff.
Katni market	...	A small jute <i>fatha</i> market in Calcutta where the unit of transactions is five bales.
Khal	...	A natural water channel.
Khamali	...	Used in North Bengal to describe the piling of bales.
Kharif	...	A crop ordinarily grown during the summer and monsoon months, i.e. between March/April and September/October.
Khas Mahal	...	Crown land.
Koori	...	Literally means a score (twenty).
Koyal	...	A weighman.

Koyali	...	A cash allowance levied by balers in certain markets to cover the weighing expenses.
Kushta	...	A Bengal term for jute.
Kutchā bale	...	A package of jute pressed to a relatively high density—5.88 to 15.5 c. ft. according to weight—by means of hand or power screw presses.
Kutchā baler	...	The most important intermediate dealer in the jute trade. He purchases unassorted fibre from <i>farias</i> and <i>beparis</i> upcountry—and occasionally from growers—grades it into the prevailing trade standards and packs it in the form of <i>kutchā</i> bales for delivery to mills and presses or for sale in the terminal markets of Calcutta.
Kutchā floor	...	A floor of hard beaten earth.
Loose jute	...	A trade expression used to describe all jute arriving in Calcutta in the form of <i>kutchā</i> bales and drums.
Macha	...	A platform made of bamboo.
Mahabharat	...	An Indian epic describing the war between the Kaurabas and Pandavas.
Manjhi	...	A boatman.
Manu	...	A law giver of the Hindus. The term is also applied to the volume containing the laws laid down by him.
Marks	...	Distinctive symbols, designs or combinations of letters employed by balers and usually printed on small squares of hessian affixed to each bale.
Marwari	...	Derived from 'Marwar', a district in Rajputana. Marwari merchants play an important part in the jute trade, both upcountry and in Calcutta.
Mayal (Mahal)	...	Originally used by Government in connection with revenue administration, it signifies groups of villages.

Middle	...	The second highest grade of loose jute (since 1938-39).
Mitha pat	...	A Bengali term used by growers in some areas to indicate <i>C. olitorius</i> . The leaves of this plant are sometime used as a vegetable and have a slightly sweet taste. <i>Mitha</i> literally means 'sweet.'
Morah or Mora-head	...	A lightly twisted bundle of four to seven seers of fibre. After assorting, jute is made up into <i>morahs</i> prior to baling.
Mutta	...	A handful of jute fibre weighing about one seer.
Namuna	...	Literally meaning 'sample', is a deduction in kind intended for determining the quality of jute offered for sale.
Northern	...	The trade name for the class of fibre produced in the districts of Pabna, Rangpur, Rajshahi, Bogra, Jalpaiguri and Dinajpur.
Outstation agency	...	Buying agency established by <i>kutch</i> balers in primary and secondary markets.
Padmokata	...	Large iron beam scale with wooden or iron pans.
Paikar	...	A small-scale peripatetic dealer similar to <i>beparis</i> and <i>farias</i> , found mostly in North Bengal and Bihar.
Pasga	...	A deduction in kind made in order to make good any possible mistake in weighment.
Pāt	...	Bengali word for jute.
Pata	...	Assamese word for jute.
Patua	...	Hindi word for jute.
Patwari	...	A village accountant mainly engaged in the compilation and maintenace of various records for land revenue purposes in the temporarily settled provinces.

Primary market ...	A small market in the rural areas, where jute is sold by growers, <i>farias</i> and <i>beparis</i> to balers' agents and <i>araddars</i> .
Pubal ...	The fibre from the south-east section of Bengal (Bakarganj and lower Faridpur). Better known as <i>dowrah</i> .
Pucca bale ...	Jute packed for export, and baled in hydraulic presses to a density of 10½ cubic feet, and weighing 400 lb. net.
Pucca road ...	Metalled road.
Pure lines ...	A term used in plant-breeding, denoting propagation through the progeny of a single plant.
Rabi crop ...	A crop ordinarily grown during winter (November to March).
Rejection ...	The trade name given to a low grade of loose jute. It was discontinued after season 1937-38.
Rooty ...	A term applied to jute containing heavy roots.
Runers ...	Strips of outer bark adhering to the fibre as a result of insufficient retting coupled with careless stripping and washing.
Secondary market ...	A large assembling centre upcountry where jute is assorted into grades and packed into <i>kutchas</i> bales.
Seer ...	A unit of weight equivalent to 2.05 lb.
Shamla ...	Gray coloured fibre from <i>daisce</i> areas.
Soft ...	When applied to jute, it denotes fibre which is soft to the feel and the strands of which do not separate cleanly on account of its fluffiness.
Solhas ...	Literally meaning sixteen, is used in Bihar to denote 16 bundles of stems normally yielding about 25 seers of dry fibre.

Specky	...	Jute having small patches of outer bark adhering to the fibre.
Sticky	...	Fibre containing broken pieces of sticks, pith or stalks, often caused by washing.
Sub-divisional Officer (S.D.O.)	...	An executive officer of the provincial Government who is the administrative head of a sub-division of a district.
Tecta pat	...	A Bengali term used by growers in some areas to indicate <i>C. capsularis</i> , the leaves of which have bitter taste. <i>Tecta</i> literally means 'bitter.'
Thana	...	A police station.
Tola	...	A unit of weight equivalent to 0.41 ounce.
Top	...	The highest grade of loose jute (since 1938-39).
Tossa	...	A term used by the trade to indicate the fibre of the <i>Olitorius</i> variety.
Tungi	...	A unit of weight in use in Jalpaiguri district, equivalent to 2 mds. 10 srs. at 80 tolas per seer.
Union Boards	...	Small local self-governing bodies established in rural areas by the provincial authorities. The area of a Union Board in Bengal ranges between 10 and 16 sq. miles according to the density of population.
Visible supply	...	Represents net exports plus internal consumption.
Western	...	Jute from Bihar and the extreme western areas of Bengal.
White	...	A term used by the trade to indicate the fibre of the <i>Capsularis</i> variety.

APPENDIX A.

Jute Cultivation in the United Provinces.

1. INTRODUCTION.

As early as 1921, some preliminary experiments on jute cultivation were made in the district of Sitapur (Lucknow Division). The results having proved encouraging, the next year some seed was obtained from Dacca. The soil and the growing conditions being found favourable, the cultivation of jute began to spread gradually, and in 1925 the area sown from seed distribute through Government agency alone amounted to 1,800 acres in Sitapur and Kheri districts (Lucknow Division). The total area under this crop, however, must have been much greater owing to *samindars* and cultivators retaining seed for sowing from the previous crop.¹

In 1925, the Deputy Commissioners of these two districts issued orders that the area under jute should in future be shown separately by the *patwaris* (village accountants, employed by the Department of Land Records) in their crop returns. But, owing to the absence of similar instructions, the jute acreage in other districts, if any, is still classified along with other minor crops under the heading "Miscellaneous."

Unless the area under this crop is shown separately for all the districts, the provincial jute acreage cannot be definitely ascertained. At present no Jute Forecast is issued for the province.

2. SUPPLY.

The area under jute has been steadily increasing in Kheri district as will be seen from the following figures.

Year	Sub-division Lakhimpur	Sub-division Nighasan	Total: Kheri district
	<i>Acres</i>	<i>Acres</i>	<i>Acres</i>
1936	237	2,068	2,305
1937	632	4,153	4,785
1938	1,000**	4,783	5,783**
1939	2,069	5,000**	7,569**

** As settlement operations were going on in this sub-division, no crop returns were prepared during the year. This estimate was, however, given by the local authorities.

¹ Cf. Note by the Deputy Director of Agriculture, Central Circle, Lucknow, dated March 25, 1926.

As no touring was undertaken in Sitapur district, the details of land sown with jute could not be obtained, but it was reported that the jute area in 1938 was over 2,000 acres. Thus, allowing for even a 25 per cent. increase—in Kheri it was 30 per cent.—the 1939 acreage may safely be estimated at 2,500. It would appear, therefore, that the two neighbouring districts of Kheri and Sitapur had a combined area of at least 10,000 acres under jute in 1939.

Furthermore, the two jute mills at Cawnpore—the Juggilal Kamlapat Jute Mills and the Maheswari Devi Jute Mill—reported that they had been buying jute from other U. P. districts as well. According to their information, the total 1939 jute crop of the United Provinces could be estimated at nearly $1\frac{1}{2}$ lac of maunds, distributed as follows.

<i>Northern districts.</i>		
Kheri	}	125,000 mds.
Sitapur		
Gonda	}	25,000 mds.
Basti		
Gorakhpur		
Bahraich		
<i>North-western districts.</i>		
Moradabad		
Bareilly		
Bulandshahr		
etc. etc.		

It was calculated that out of this total, the Cawnpore mills were likely to consume approximately $1\frac{1}{4}$ lac. mds. and the mill at Sahjanwa (Gorakhpur district) would use about $\frac{1}{4}$ lac mds. Some jute is also purchased by the mill at Raigarh (C. P.) and by a few Calcutta balers. If this estimate of the crop is correct, the total 1939 jute area in the U. P.—with an average yield of 12 to 15 maunds per acre as found in Kheri district—should be 10,000 to 12,500 acres.

The following statistics, collected from the various railway stations, throw some light on the probable production of jute in Kheri district and in the United Provinces as a whole.

Exports of Raw Jute from Lakhimpur RS. (R. K. Ry.)
 Jute Year—July to June.
 (in maunds)

Destination	1936-37	1937-38	1938-39	1939-40**
Cawnpore	18,636	87,831	83,236	62,573
Sahjanwa	16,168	14,523	Mill idle	9,693
Other centres in U. P.	465	651	1,998	1,024
Total U. P.	35,269	103,005	85,234	73,490
Centres outside U. P.	184	5,279	22,040	8,147
Total exports	35,453	108,284	107,274	81,637

** Figures for 7 months ending 27th January 1940.

Arrivals of Jute from U. P. Markets
 at Cawnpore RS. (E. I. Ry.)
 Jute year—July to June
 (in maunds)

Station of despatch	1936-37	1937-38	1938-39	1939-40**
Colonelganj	10,305	12,205	2,540	5,271
Lakhimpur	16,728	61,229	79,004	56,108
Moradabad	412	1,860	1,191	1,207
Bareilly	...	...	2,430	2,608
Chandausi	265	...	1,065	3,167
Bahjoi	...	...	1,130	1,924
Rampur	...	428	380	666
Dibai	...	375	2,287	203
Amroha	...	...	400	...
Bindura	...	...	30	26
Nagaria Sadar	...	...	...	200
Kantn	...	...	...	393
Dhanaura Mandi	...	...	400	200
Gajraula	...	...	400	800
Bhadohi	...	...	...	285
Shahganj	...	...	...	177
Dandapur	...	...	...	217
Badshahpur	...	...	...	317
Saidpur	1,990	1,645	...	24,547
Nawabganj	440	200	210	...
Roorke	126	...	...	...
Kashipur	33	...	...	...
Dauram Madhopur	645	5,183	161	...
Badshahnagar	...	...	42	...
Bahranghat	...	...	120	...
Total	30,944	83,125	91,790	98,316

** Figures for seven months ending 3rd February 1940.

*Arrivals of Jute from U. P. Markets
at Sahjanwa R.S. (B. & N. W. Ry.)*

Jute year—July to June
(in maunds).

Station of depatch	1936-37	1937-38**	1938-39
Basti	4,250	500	Mill idle.
Lakhimpur	16,814	14,523	
Namgarh	164	...	
Colonelganj	4,376	136	
Nawabganj	983	...	
Gonda	192	...	
Bahraich	100	...	
Risia	131	...	
Total	27,010	15,150	

No arrivals were reported after that.

** Figures for nine months ending 31st March 1938.

3. CULTIVATION.

Nearly all the jute grown in Kheri district is of *C. capsularis* variety. It is sown from mid February to mid April, and the harvesting is done in July and August, that is during the monsoon. As jute is grown mainly on *ganjar* land, which, being situated along the four rivers—Sarju, Gogra, Sarda and Chowka—is liable to inundation every year, hardly any manuring is done. Because the jute crop can stand flooding, the cultivators prefer it to paddy or any other *kharif* crop.

(a) *Seed*—The seed rate is 3 to 4 seers per acre. The district grows its own seed. The price of seed for 1939 sowing ranged between 4 and 6 annas per seer, but in 1940 on account of larger demand the price had increased to 8 annas and even more. The Agricultural Inspector at Lakhimpur received many requests for seed which he could not meet as the Department of Agriculture, U. P., makes no arrangement for the supply of jute seed.

(b) *Yield per acre*—A few cultivators of Kheri district reported that they had obtained as much as 20 maunds of fibre per acre, but the majority of them got lower yields in 1939. Shortage of rains after the completion of sowings appears to have reduced the yield. And, depredations by wild animals from the adjacent forests were said to have caused damage to the crop. No crop cutting experiments are undertaken on the jute crop.

But, from the enquiries made from about 50 cultivators, it seems that the average yield in the Kheri district was 12 to 15 maunds per acre in 1939.

(c) *Expenses*—As in other parts of the country, most of the agricultural labour in Kheri district is supplied by the family members of the grower himself. He retains his own seed, and uses—if at all—his own farmyard manure. Ordinarily, the cultivator owns a cart and a pair of bullocks. Thus, as a rule, he does not spend much cash in growing his crops. But, for accounting purposes, his own wages as well as those of his family members and the cost of various articles supplied by him should be included in his cost of production. On this basis, the expenses of cultivation of jute and its preparation for market in Kheri district were found to be as under. (3 *pucca bighas*=1 acre).

Expenses of Cultivation of Jute and Preparation of Fibre.
(1939-40)

1. Ploughing	... 5 times	... Rs. 2 8 0 per <i>pucca bigha</i> .
2. Harrowing	... twice	... " 1 0 0 " " "
3. Seed	... 1½ seer	... " 0 6 0 " " "
4. Weeding	... 8 men @ -/2/- each	... " 1 0 0 " " "
5. Cutting	... 16 men @ -/2/- each	... " 2 0 0 " " "
6. Carting to retting tank	...	... " 1 0 0 " " "
7. Stripping and washing—at 8 as per md.—5 mds. of fibre	...	... " 2 8 0 " " "
8. Carting fibre home	...	... " 0 4 0 " " "
9. Bundling—at 6 pies per md. (<i>anties</i> of half seer are tied into long bundles, usually weighing 20 srs. each)—5 mds. of fibre	...	... " 0 2 6 " " "
10. Cartage to Lakhimpur—at 2 as. per md. for 16 miles,—5 mds. of fibre	...	... " 0 10 0 " " "
11. Octroi at Lakhimpur—at 8 as. per cart carrying about 16 mds.—on 5 mds. of fibre	...	... " 0 2 6 " " "
12. Rent for land	...	... " 1 0 0 " " "
		Total—Rs. 12 9 0 per <i>pucca bigha</i>
		Say— " 12 8 0 " " "
		Or— " 2 8 0 " md.

(Assuming the average yield as 5 mds. per bigha.)

4. MARKETING.

(a) *Markets*—In Kheri district, there are only two jute markets, Palia and Lakhimpur, with a probable total turnover of 125,000 mds. during 1939-40. There is no market in Sitapur

district, and the direct despatches from there have been reported to be nominal. As the jute growing tracts of Sitapur district are adjacent to Lakhimpur market, almost all the fibre from the former finds its way to the latter.

(b) *Sale*—The selling season starts in September each year, but October, November and December are the busiest months for the marketing of jute. Most of the growers take their jute to Lakhimpur market. A few *beparis*, however, operate in the rural areas and their number is gradually increasing. They are all agriculturists by profession and take up the assembling of jute as a side line after their own crops have been harvested.

The operators in Lakhimpur market consist of (i) *taula*—who combines the functions of a weighman and a broker, (ii) *aratdar*—who acts as a commission agent for the buyer and stores jute, if necessary, and (iii) a direct representative of the Juggilal Kamlapat Jute Mills of Cawnpore which is the largest buyer in the local market.

All sellers, whether growers or *beparis*, take their carts first to the shops of the *taulas* which are visited in the course of the day by *aratdars* or the representatives of buyers. All jute is unloaded from the carts and displayed on the ground. Buyers bargain with *taulas* in an open manner and the sellers are informed of the prices offered. After some haggling, a bargain is struck and the jute is taken by the sellers in their own carts to the buyers' godowns. Weighing is done there by *taulas*, at 42 seers per maund—a seer being of the standard weight of 80 tolas. And, sometimes, the buyers arbitrarily realize an extra seer or two of fibre on the ground of moisture, locally called *dhaita*.

(c) *Cash allowances and deductions in kind*—In common with the jute markets in other provinces, arbitrary deductions and the imposition of various allowances are prevalent in Lakhimpur market as well. They are shown in a tabular form on the opposite page.

(d) *Prices*—It was not possible to get a series of prices from the *aratdars*. They declared that the average prices were approximately Rs. 6-4-0, 4-4-0 and 8-8-0 per md. in 1937-38, 1938-39 and 1939-40 (up to January 1940) respectively. The highest prices were paid in November and early December 1939 when jute was sold at Rs. 15 to 17 per md.

Lakhimpur jute is of *jungli* quality, though inferior to Murshidabad fibre. It is generally 7 to 8 ft. long but contains

about 3 ft. of roots. The fibre is somewhat harsh and brittle, but it is not specky. The total freight to Calcutta is Re. 0-14-6

Market charges.	Value per md. (price of jute Rs. 10 per md.)	Proportion of sales proceeds deducted as allowances.
1. <i>Aratdari</i> (commission)—Rs. 1-9-0 per cent.	0 2 6	R. a. p. 1 9 0 % 9 9 2
2. <i>Taula</i> (brokerage and weighing)— $\frac{1}{4}$ seer per md.	0 1 0	
3. <i>Palledari</i> (for loading on the scales and unloading)—4 srs. per cart of 16 maunds.	0 1 0	
4. <i>Bangi</i> (sample)—2 srs. per cart.	0 0 6	
5. <i>Karda</i> (shortage allowance)— $\frac{1}{8}$ th sr. per md.	0 0 6	
6. <i>Dharmaida</i> (charity)—1 pice per md.	0 0 3	
7. Temple Mahadeo—2 pice per cart.	0 0 3	
8. <i>Dana</i> (for buyer's men)—2 pice per cent.	0 0 3	
9. Weighing at 42 srs. per md.—i.e. 2 srs. per md. extra.	0 8 0	
10. <i>Dhalta</i> (moisture allowance)—1 seer per md.	0 4 0	
Total—Rs.	...	11 2 2 %

NOTE—All these charges are paid by sellers. *Aratdars* usually receive one anna per maund as commission from their principals.

per md.—Lakhimpur to Lucknow Re. 0-3-9, and Lucknow to Cossipore Road Re. 0-11-9. Therefore, the prices in Lakhimpur market are Re. 1 to Rs. 1-4 per md, less than the Calcutta prices for *jungli* jute.

(e) *Baling*—There are in all 10 hand presses at Lakhimpur (and it was reported that 2 or 3 were located at Palia) which pack jute in *kutch*a bales of $1\frac{1}{2}$ and 3 mds. each. The *aratdars* have their own grades of packing and call them 1's, 2's and 3's, but the local establishment of the J. K. Mills was found packing jute according to the 1937-38 Calcutta marks, viz. R, LR and XLR. There was no particular complaint about the moisture contents of jute. It appears that the practice of mixing water is not common. Ordinarily, the fibre was said to contain 2 to 4 per cent. of moisture.

(f) *Co-operative sales*—There is no separate co-operative jute sales society at Lakhimpur, but the Co-operative Union established there handles its members' fibre along with other commodities. It was reported by the local officials of the Department of Co-operative Societies, U.P., that on some occasions the employees of the *taulas* and *aratdars* collected on the outskirts of the town and more or less forcibly took the sellers'

carts to their own godowns and prevented them from going to the Union office. It was also reported that the Union could not get better prices for their members' jute. The local buyers insisted on charging all their usual allowances even if they agreed to buy fibre from the Union. And, the latter was unsuccessful in making direct contracts with outside buyers.

(g) *Financing*—*Aratdars* are commonly financed by their principals, and may in their turn advance money to the few *beparis* operating in the market. But, ordinarily, the *beparis* make their own arrangements. If necessary, the growers borrow from the professional money-lenders, but not from the intermediaries.

APPENDIX B

Cost of Preparation of Fibre for Marketing
(per acre)

District	Cutting & bundling			Carrying & steeping			Stripping & washing			Drying & bundling			Total costs
	Hands	Wages	Amount	Hands	Wages	Amount	Hands	Wages	Amount	Hands	Wages	Amount	
East Bengal			<i>R. a. p.</i>			<i>R. a. p.</i>			<i>R. a. p.</i>			<i>R. a. p.</i>	<i>R. a. p.</i>
Dacca	17	0 7 6 (0 4 3)	7 15 6	8	0 7 6	3 12 0	37	0 7 6	17 5 6	7	0 7 6	3 4 6	32 5 6
Mymensingh	12	0 6 3 (0 4 3)	7 14 0	6	0 6 3 (0 4 3)	3 15 0	22	0 6 3 (0 4 3)	14 7 0	6	0 6 3 (0 4 3)	3 15 0	30 3 0
Faridpur	15	0 4 9 (0 2 0)	6 5 3	6	0 4 9 (0 2 0)	2 8 4	36	0 4 0 (0 2 0)	13 8 0	6	0 4 0 (0 2 0)	2 4 0	24 9 9
Bakarganj	18	0 4 0	4 8 0	6	0 4 0	1 8 0	18	0 4 0	4 8 0	6	0 4 0	1 8 0	12 0 0
Tippera	17	0 6 0	6 6 0	8	0 6 0	3 0 0	38	0 6 0	14 4 0	8	0 6 0	3 0 0	26 10 0
Noakhali	20	0 5 0 (0 1 0)	7 8 0	8	0 5 0 (0 1 0)	3 0 0	40	0 5 0 (0 1 0)	15 0 0	6	0 5 0 (0 1 0)	2 4 0	27 12 0
Average	17	0 6 6	6 15 5	7	0 6 9	2 15 3	32	0 6 7	13 4 0	7	0 6 8	2 14 8	26 1 4
North Bengal													
Rajshahi	18	0 5 0 (0 2 0)	7 14 0	6	0 5 0 (0 2 0)	2 10 0	18	0 5 0 (0 2 0)	7 14 0	6	0 5 0 (0 2 0)	2 10 0	21 0 0
Dinajpur	12	0 5 0 (0 2 3)	5 7 0	6	0 5 0 (0 2 3)	2 11 6	15	0 5 0 (0 2 3)	6 12 9	6	0 5 0 (0 2 3)	2 11 6	17 10 9
Jalpaiguri	12	0 5 3 (0 3 0)	6 3 0	12	0 5 6 (0 3 0)	6 6 0	15	0 5 3 (0 3 0)	7 11 9	3	0 5 3 (0 3 0)	1 8 9	21 13 6
Rangpur	15	0 8 3	7 11 9	12	0 8 3	6 3 0	24	0 8 6	12 12 0	3	0 8 3	1 8 9	28 3 6
Bogra	18	0 4 0 (0 2 0)	6 12 0	12	0 4 0 (0 2 0)	4 8 0	18	0 5 0 (0 3 0)	9 0 0	3	0 4 0 (0 2 0)	1 2 0	21 6 0
Pabna	12	0 6 0 (0 2 0)	6 0 0	6	0 6 0 (0 2 0)	3 0 0	24	0 6 0 (0 2 0)	12 0 0	6	0 5 0 (0 2 0)	2 10 0	23 10 0
Malda	18	0 4 0	4 8 0	6	0 4 0	1 8 0	18	0 4 0	4 8 0	6	0 4 0	1 8 0	12 0 0
Average	15	0 6 9	6 13 8	9	0 7 2	4 0 6	19	0 7 4	8 11 4	5	0 6 8	2 1 4	21 20 10
West Bengal													
24 Parganas	18	0 5 0	5 10 0	6	0 5 0	1 14 0	20	0 6 0	7 8 0	7	0 5 0	2 3 0	17 3 0
Nadia	18	0 6 0	6 12 0	6	0 6 0	2 4 0	18	0 8 0	9 0 0	6	0 6 0	2 4 0	20 4 0
Murshidabad	18	0 4 0	4 8 0	6	0 4 0	1 8 0	18	0 4 0	4 8 0	6	0 4 0	1 8 0	12 0 0
Jessore	18	0 8 0	9 0 0	6	0 8 0	3 0 0	24	0 8 0	12 0 0	6	0 8 0	3 0 0	27 0 0
Khulna	12	0 8 0	6 0 0	6	0 8 0	3 0 0	24	0 8 0	12 0 0	6	0 8 0	3 0 0	24 0 0
Hooghly	18	0 6 6	7 5 0	8	0 6 6	3 4 0	21	0 6 6	8 8 6	6	0 6 6	2 7 0	21 8 6
Average	17	0 6 2	6 8 10	6	0 6 3	2 5 6	21	0 6 10	8 15 6	6	0 6 3	2 5 6	20 3 4
Tripura State	12	0 5 0 (0 2 0)	5 4 0	7	0 5 0 (0 2 0)	3 1 0	30	0 5 0 (0 2 0)	13 2 0	5	0 5 0 (0 2 0)	2 3 0	23 10 0
Bihar													
Purnea	13	0 5 6	4 7 6	11	0 5 6	3 12 6	18	0 5 6	6 3 0	4	0 5 6	1 6 0	15 13 0
Assam													
Sylhet	16	0 7 6	7 8 0	5	0 7 6	2 5 6	30	0 7 6	14 1 0	5	0 7 6	2 5 6	26 4 0
Goalpara	12	0 7 6	5 10 0	4	0 7 6	1 14 0	18	0 7 6	11 3 0	4	0 7 6	1 14 0	20 9 0
Kamrup	20	0 8 0	10 0 0	6	0 8 0	3 0 0	32	0 8 0	16 0 0	6	0 8 0	3 0 0	32 0 0
Nowgong	12	0 11 0	8 4 0	5	0 11 0	3 7 0	24	0 11 0	16 8 0	6	0 11 0	4 2 0	32 5 0
Average	15	0 8 4	7 13 5	5	0 8 6	2 10 6	26	0 8 11	14 7 10	5	0 9 1	2 13 5	27 13 2
Orissa	20	0 2 6	3 2 0	15	0 2 6	2 5 6	30	0 2 6	4 11 0	6	0 2 6	0 15 0	11 1 6

Note—The amounts in parenthesis represent the cost of meals provided for labourers.

APPENDIX C

Sale of Jute by Growers (in percentages)
Season 1937-38.

District	July	August	September	October	November	December	January	February	March	April	May	June
East Bengal												
Dacca	32.10	14.20	14.70	7.80	5.20	4.70	2.70	12.70	3.60	1.30	1.00	...
Mymensingh	0.91	8.51	22.27	32.49	10.61	7.47	2.11	7.09	2.69	5.80	...	0.05
Faridpur	2.10	13.75	39.64	14.89	5.75	6.84	3.55	3.58	2.36	1.52	2.79	3.23
Bakarganj	...	5.75	39.75	26.39	20.98	6.63	...	...	...	...	...	...
Tippera	21.10	25.80	20.10	10.80	4.70	4.60	6.20	3.90	2.00	0.80	...	...
Noakhali	7.60	25.60	14.40	7.80	1.40	6.40	6.10	14.90	7.30	8.50	...	...
Weighted Average— East Bengal	12	14	23	19	8	6	3	7	3	3	1	1
North Bengal												
Rajshahi	...	0.80	2.90	29.50	28.60	22.60	6.80	4.60	4.20	...	...	...
Dinajpur	...	...	3.18	8.50	59.00	9.80	9.49	20.29	5.08	4.06	0.60	...
Jalpaiguri	...	...	0.60	25.86	41.31	15.85	10.32	2.70	2.81	0.55	...	...
Rangpur	1.58	13.67	31.92	24.38	10.65	5.97	2.73	2.12	2.50	1.70	2.20	0.53
Borga	...	...	9.00	24.60	23.40	28.40	6.00	4.40	...	3.30	0.90	...
Pabna	0.41	23.39	48.02	15.59	10.79	1.15	0.09	0.22	0.31	0.03	...	...
Malda	...	12.56	15.32	47.30	24.09	0.73	...	...	...	...	...	...
Weighted average— North Bengal	1	10	23	23	19	11	4	4	2	2	1	Negligible
West Bengal												
24-Parganas	...	...	4.72	33.05	36.07	18.24	4.42	...	3.50	...	...	...
Nadia	...	...	7.38	37.02	33.18	7.38	12.58	...	2.46	...	...	...
Murshidabad	...	8.15	22.32	29.68	27.29	7.24	5.32	...	...	...	...	...
Jessore	...	...	2.44	26.59	43.36	11.39	4.13	1.99	3.16	3.36	1.45	2.13
Khulna	...	...	...	24.38	23.68	32.43	19.03	0.42	...	...	...	...
Hooghly	...	...	...	53.28	31.14	11.48	...	...	4.10	...	...	...
Weighted average— West Bengal	...	2	8	33	34	12	7	Negligible	2	1	Negligible	Negligible
Weighted average— Bengal	7	11	21	22	14	8	4	6	3	2	1	1
Tripura State	...	1.30	20.60	22.80	4.30	13.60	14.40	7.80	6.70	8.50	...	...
Bihar (Purnea)	...	...	17.26	36.97	21.54	4.82	13.46	...	3.72	1.71	0.52	...
Assam												
Sylhet	5.60	33.90	23.70	22.80	3.60	3.80	4.90	0.20	0.90	0.60	...	...
Goalpara	6.30	19.00	27.80	21.90	13.40	6.30	0.40	1.30	0.20	2.40	...	...
Kamrup	18.20	19.20	44.60	10.00	3.40	1.10	1.10	...	2.40	...	...	...
Nowgong	9.00	21.50	30.20	10.80	12.60	6.90	2.50	1.20	4.50	0.80	...	—
Weighted average— Assam	10	22	32	16	9	5	2	1	2	1	...	...
Orissa	...	...	...	3.40	17.00	61.80	5.90	11.90	...	...	...	...

Source—The Marketing Enquiry of the Indian Central Jute Committee.

APPENDIX D

A Note on

Taxes Levied by the Local Self-governing Bodies.

The local self-governing bodies, established in the four jute growing provinces, fall under three categories—District and Union Boards for rural areas and Municipal Boards for urban areas. No tax on transit—viz. octroi duty or terminal tax—is in force in Bengal or in the jute growing districts of Bihar, Orissa and Assam.

(1) The District Boards in Bengal levy a road cess and a public works cess, assessed on the annual value of lands and on the annual net profits from other forms of immovable property, e.g. mines, quarries, railways, etc. The Amendment Cess Act of 1934, contemplates far reaching changes in the system of valuations of the lands for cess purposes and in the method of assessment of cesses. But, for the purposes of the present report, it is unnecessary to enter into these details. It will suffice to note that hitherto the combined rate for these cesses has been fixed at a maximum of $6\frac{1}{4}$ per cent. of the annual value of lands or the annual net profits from other forms of immovable property. In addition to these cesses, an education cess, calculated at the maximum rate of 5 pies in the rupee, has recently been imposed in several districts of Bengal with the object of securing funds for the extension of compulsory primary education in rural areas.

(2) The Union Boards are small local self-governing bodies set up in rural areas by the provincial authorities. In Bengal and Assam, from ten to twelve villages, on an average, are grouped under one board, the actual number depending upon the size and population of the villages. But in Purnea (Bihar), where the innovation is more recent, a board has jurisdiction over a large number of villages. The system in Orissa is similar to that of Bihar.

The Union Boards in Bengal levy a general Union Board rate on the basis of the property and circumstances of the inhabitants resident within the limits of the unions. The minimum rate has been fixed at six annas and the maximum at Rs. 84 per

annum. Jute merchants carrying on business within the jurisdiction of the boards, naturally, pay the tax. For the purpose of calculating the total income and thereby determining the appropriate rate of tax applicable to them, the previous year's turnover of jute is taken into consideration. In Assam the method of taxation by the Union Boards is, broadly speaking, the same. In Bihar, two taxes—Union Board tax with a maximum rate of Rs. 32 per annum and Chowkidari tax with a similar rate of Rs. 32—are levied on the people living in the rural areas.

(3) Some municipalities in Bengal impose a jute license fee. Jute merchants, both *aratdars* and balers, operating in markets situated within the limits of the taxing municipality, have to obtain a trade license on the payment of certain fees. A similar system exists in Assam.

APPENDIX E

*Percentages of Marketable Surplus of Jute Sold by Growers
at Various Points
(1937-38)*

Districts	Villages	Primary markets and hats	Secondary markets (baling centres)
Dacca	86	12	2
Mymensingh	84	10	6
Faridpur	72	28	negligible
Bakarganj	18	81	1
Tippera	91	4	5
Noakhali	50	35	15
Tripura State	97	3	negligible
Average East Bengal	81	15	4
Rajshahi	28	72	negligible
Dinajpur	72	6	22
Jalpaiguri	91	4	5
Rangpur	89	4	7
Bogra	62	33	5
Pabna	83	14	3
Malda	14	71	15
Average North Bengal	75	18	7
24-Parganas	63	26	11
Nadia	49	35	16
Murshidabad	51	33	16
Jessore	48	42	10
Khulna	89	11	negligible
Hooghly	68	20	12
Average West Bengal	57	31	12
Average Bengal	76	18	6
Purnea (Bihar)	99	negligible	31
Sylhet	90	7	3
Goalpara	62	26	12
Kamrup	51	49	negligible
Nowgong	78	15	7
Average Assam	69	25	6
Orissa	59	28	13
All-India average	75	20	5

Note—All averages are weighted according to the production of jute in the respective districts.

APPENDIX F
Handling Expenses at Secondary Markets
(in pies per maund)

Important secondary markets	Unloading & carrying to godowns	Selecting & baling	Exporting by boat or cart	Station expenses †	Total expenses	
					R.	a. p.
East Bengal						
Dacca	3	12	3	...	0	1 6
Narsingdi	4½	15	1½	...	0	1 9
Baira	1½	10½	2	...	0	1 2
Netrakona	4½	12	4	...	0	1 8½
Iswarganj	1	11	3	...	0	1 3
Kishoreganj	3½	11½	3	...	0	1 6
Sibchar §	...	9	4	...	0	1 1
Ashuganj	1	12	1	...	0	1 2
Akhaura	3	15	9	...	0	2 3
Weighted average					0	1 6.5
North Bengal						
Mahiganj	*	12	5½	1	0	1 6½
Kurigram	*	10½	5½	2	0	1 6
Gaibandha	*	11	2½	1	0	1 2½
Domohani	*	11	6	1½	0	1 6½
Raiganj	*	12	4	...	0	1 4
Sonatola	*	9½	3½	2½	0	1 3½
Atraighat	3	10	3	...	0	1 4
Baradwari	*	16	8	2	0	2 2
Weighted average					0	1 3.5
West Bengal						
Lalgola	*	12	3	1	0	1 4
Beldanga	*	9	6	1	0	1 4
Magura	*	12	3	...	0	1 3
Bhairamara	*	18	6	3	0	2 3
Chuadanga	*	18	6	3	0	2 3
Weighted average					0	1 6.8
Bihar (Purnea)						
Gulabgh	*	11½	4½	...	0	1 4
Forbesganj	*	10½	3½	...	0	1 2
Kishanganj	*	11½	6	...	0	1 5½
Araria	*	11½	3	...	0	1 2½
Weighted average					0	1 3.5
Assam						
Manumukh	3	12	3	...	0	1 6
Dhubri	6	10½	3	...	0	1 7½
Barpeta Road	3	12	6	...	0	1 9
Haibergaon	*	12	2	...	0	1 2
Weighted average					0	1 6.5
Orissa						
Kendupatna	1½	18	1½	...	0	1 9
Danpur	1½	18	1½	...	0	1 9
Average					0	1 9

† Station expenses include charges for unloading carts and loading in wagons and occasional tips to railway staff.

§ Unloading done by sellers.

* Arrivals by carts and unloading done by cartmen and sellers.

APPENDIX G

Cost of Transport by Country Boats
(From villages and hats to secondary markets)

From	To	Distance (miles)	Rate per standard maund	Cost per mile per maund (in pies)
East Bengal				
Khalilabad (Tippera)	Chandpur	2 $\frac{3}{4}$	0 0 6	2.4
Mirpur (Tippera)	Kuthi	3 $\frac{3}{4}$	0 0 6	2.0
Rajnagar (Dacca)	Singair	4	0 0 4	2.2
Zamindar hat (Noakhali)	Chaumohani	4 $\frac{1}{2}$	0 0 9	2.0
Shahganj (Mymensingh)	Gouripur	5	0 1 0	2.4
Baligaon (Dacca)	Tarpassa	5	0 1 0	2.4
Basirhat (Faridpur)	Japsa	5	0 1 0	2.4
Simulkandi (Mymensingh)	Netrokona	6	0 1 6	2.0
Kalyanpur (Dacca)	Janjirabazar	6	0 1 0	2.0
Bhedarganj (Faridpur)	Japsa	8	0 1 0	1.5
Kuliarchar (Mymensingh)	Ashuganj	12	0 1 0	1.0
Chengatoli (Noakhali)	Chaumohani	14	0 2 0	1.7
Matharchar (Faridpur)	Tarpassa	16	0 1 6	1.1
Bhadekhara (Tippera)	Akhaura	20	0 3 0	1.8
Hajiganj (Faridpur)	Khankhanapur	20	0 2 0	1.2
Talma Hat (Faridpur)	Khankhanapur	25	0 2 9	1.3
Patiadi (Dacca)	Narsingdi	30	0 3 0	1.2
Patarhat (Faridpur)	Japsa	40	0 3 0	0.9
Kapasia (Dacca)	Dacca	40	0 2 0	0.6
Average :				1.7
North Bengal				
Jumarbari (Rangpur)	Mahimaganj	6	0 1 2	2.3
Kujjail Hat (Rajshahi)	Atraighat	6	0 0 11	1.9
Shahghatta (Rangpur)	Dewantola	8	0 1 11	3.0
Kujjail Hat (Rajshahi)	Rajshahi	10	0 2 9	3.3
Bhawaniganj (Rajshahi)	Atraighat	14	0 1 3	1.0
Average :				2.3
Assam				
Ampora (Sylhet)	Sunamganj	4	0 1 0	3.0
Balaganj (Sylhet)	Fenchuganj	8	0 1 0	1.5
Samsorganj (Sylhet)	Manumukh	15	0 2 0	1.6
Nagarbera (Goalpara)	Goalpara	20	0 2 0	1.2
Bilashipara (Goalpara)	Gouripur	24	0 1 6	0.7
Demra (Goalpara)	Goalpara	25	0 4 0	1.9
Average :				1.6
Orissa				
Marsaghai	Danpur	20	0 2 6	1.5
Maisaghai	Kendupatna	24	0 2 6	1.3
Average :				1.4

APPENDIX H

Cost of Transport by Carts
(From villages and hats to primary and secondary markets)

Average						2.5
Bihar (Purnea)						
Mojabari	Kishanganj	6	Kutchra	R. a. p.	0 2 8	5.3
Dhanpura	do	9	do	0 3 4	4.4	
Raniganj	Forbesganj	15	do	0 2 9	2.2	
Chandardai	Kasba	20	do	0 2 9	1.6	
Madanpur	Gulabbagh	32	do	0 6 0	2.3	
Average						3.2
Assam						
Durganagar (Sylhet)	Mantala	2½	Kutchra	R. a. p.	0 1 0	4.8
Bangalipara (Goalpara)	Bilashipara	3	do	0 0 0	2.0	
Ranpur (Nawgong)	Dhingbazar	4	do	0 1 6	4.5	
Sidhiganj (Sylhet)	Mantala	6	do	0 1 6	3.0	
Dhamdhama (Kamrup)	Nalbari	8	do	0 2 0	3.0	
Bansbari (do)	Barpeta road	12	do	0 3 0	3.0	
Laukhaua (Nowgong)	Haibergaon	18	do	0 4 0	2.7	
Tamarhat (Goalpara)	Gouripore	20	do	0 4 0	2.4	
Average						3.2
Orissa						
Nischintakali	Kendupatna	3	Kutchra	R. a. p.	0 0 9	3.0
Salehpur	do	8	do	0 1 6	2.2	
Mahenga	do	14	do	0 2 6	2.1	
Average						2.4

APPENDIX H

Cost of Transport by Carts

(From villages and hats to primary and secondary markets)

From	To	Distance (miles)	Type of road	Rate per standard maund	Cost per mile per maund (in pies)
East Bengal					
Jurain (Dacca)	Dacca	2½	Metalled	R. a. p. 0 1 0	5.0
Samantopur (Dacca)	Joydevpur	1½	Kutchia	0 1 0	8.0
Zamindarhat (Noakhali)	Chaumohani	4½	do	0 1 0	2.6
Shahganj (Mymensingh)	Gourepur	5	do	0 1 0	2.4
Samantopur (Dacca)	Kadda	6	do	0 2 0	4.0
Rajganj (Noakhali)	Chaumohani	6	do	0 1 6	3.0
Gaffargaon (Mymensingh)	Ramamritaganj	7	do	0 1 6	2.6
Phulbari (do)	Mymensingh	3	do	0 2 6	2.3
Durgapur (do)	Jariajhanjail	16	do	0 1 3	1.0
Average					3.4
North Bengal					
Matigara Hat (Siliguri)	Siliguri	4	Metalled	R. a. p. 0 1 0	3.0
Khulsi (Rajshahi)	Naogaon	3	do	0 2 9	4.1
Bargachhi Hat (do)	Rajshahi	13	9 miles metalled	0 2 9	2.5
Jamalpur (Dinajpur)	Sibganj	2	Kutchia	0 0 6	3.0
Sabgramhat (Bogra)	Gabtali	3	do	0 1 0	4.0
Murtazapur (Dinajpur)	Shetabganj	3	do	0 1 0	4.0
Shabashpur (Bogra)	Gabtali	4	do	0 1 6	4.5
Tulsighat (Rangpur)	Gaibandha	4	do	0 0 11	2.7
Madlahat (Bogra)	Bogra	5	do	0 1 0	2.4
Kulaghat (Rangpur)	Lahmonirhat	5	do	0 1 6	3.5
Bairagihat (Jalpaiguri)	Patgram	6	do	0 1 0	2.0
Sundarganj (Rangpur)	Bamandanga	6	do	0 1 2	2.3
Nayarhat (Rangpur)	Ullipur	7	do	0 1 3	2.0
Daspara (Jalpaiguri)	Pachagarh	10	do	0 2 0	2.4
Serkol (Rajshahi)	Nator	11	do	0 1 3	1.3
Mirganj (Rangpur)	Naldanga	12	do	0 2 3	2.2
Guraihat (Dinajpur)	Sibganj	14	do	0 3 4	2.8
Rajgunge (Jalpaiguri)	Jalpaiguri	14	do	0 2 6	2.1
Sankahat (Dinajpur)	Dinajpur	18	do	0 2 4	1.3
Soortibarihat (Rangpur)	Gaibandha	24	do	0 7 0	3.5
Average					2.8
West Bengal					
Chanditala (Hooghly)	Bandar Bil	3	Kutchia	R. a. p. 0 0 9	3.0
Baduria (24-Parganas)	Kholapota	4	do	0 0 9	2.2
Haripal (Hooghly)	Sheoraphuli	14	do	0 2 6	2.2
Dasgara (do)	do	28	do	0 6 0	2.5
Dhaniakhali (do)	do	33	do	0 6 6	2.4
Average					2.5
Bihar (Purnea)					
Mojabari	Kishanganj	6	Kutchia	R. a. p. 0 2 8	5.3
Dhanpura	do	9	do	0 3 4	4.4
Raniganj	Forbesganj	15	do	0 2 9	2.2
Chandardai	Kasba	20	do	0 2 9	1.6
Madanpur	Gulabbagh	32	do	0 6 0	2.3
Average					3.2
Assam					
Durganagar (Sylhet)	Mantala	2½	Kutchia	R. a. p. 0 1 0	4.8
Bangalipara (Goalpara)	Bilashipara	3	do	0 0 0	2.0
Ranpur (Nawgong)	Dhingbazar	4	do	0 1 6	4.5
Sidhiganj (Sylhet)	Mantala	6	do	0 1 6	3.0
Dhamdhama (Kamrup)	Nalbari	8	do	0 2 0	3.0
Bansbari (do)	Barpeta road	12	do	0 3 0	3.0
Laukhaua (Nowgong)	Haibergaon	18	do	0 4 0	2.7
Tamarhat (Goalpara)	Gouripore	20	do	0 4 0	2.4
Average					3.2
Orissa					
Nischintakali	Kendupatna	3	Kutchia	R. a. p. 0 0 9	3.0
Salehpur	do	8	do	0 1 6	2.2
Mahenga	do	14	do	0 2 6	2.1
Average					2.4

APPENDIX I
Freight Rates to Calcutta by Combined Service
 (Steamer and Railway)

From	Transhipment points	Calculated freight per maund of baled jute.
		<i>R. a. p.</i>
Narayanganj	Khulna	0 6 10
Chandpur Ghat	do	0 6 10
Narail	do	0 6 10
Tarail	do	0 7 10
Magura	do	0 7 6
Rajair	do	0 9 6
Ashuganj Ghat	do	0 11 0
Gournadi	do	0 9 8
Dacca	Narayanganj & Khulna	0 8 0
Kaoraid	do	0 9 2
Gaffargaon	do	0 9 4
Ramamritaganj	do	0 8 10
Mymensingh	Jagannathganj & Serajganj	0 8 10
Singhjani	do	0 7 6
Netrakona	do	0 9 2
Shamganj	do	0 10 0
Iswarganj	do	0 11 4
Sarisabari	Serajganj	0 7 2
Tarpassa	Goalundo	0 11 4
Elashin	do	0 11 6
Dhubri	do	0 13 10
Goalpara	do	0 13 10
Fulchhari Ghat	do	0 13 8
Sonaimuri	Chandpur Ghat & Khulna	0 7 8

APPENDIX J.

Calcutta Jute Dealers Association

JUTE CONTRACT.

Approved by the

INDIAN JUTE MILLS ASSOCIATION.

No. Calcutta 19

Messrs

Dear Sirs,

We here this day ^{Bought}/_{Sold} by your order and for your account ^{from}/_{to}

9 1. Maunds packed in bales each weighing about..... Maunds of the mark, assortment and quality, as per margin, and in sound, dry storing condition at the rate of:—

Rs.....as....for....per Calcutta Bazaar Md. (82¹/₈ lbs.)

Rs.....as....for....per Calcutta Bazaar Md. (82¹/₈ lbs.)

Rs.....as....for....per Calcutta Bazaar Md. (82¹/₈ lbs.)

free to Buyers' Mill Siding and/or Ghat. Weight guaranteed at Buyers Mill.

2. *Delivery* to.....by I. G. N. & Ry. Co.'s, R. S. N. Co.'s, B. A. S. S. Co.'s, E. B. R. S. S. Co.'s Steamer and/or flat and/or by Rail.

Shipment or Rail Despatch:—

.....
.....
Each shipment or despatch to be treated as a distinct and separate contract.

3. *Transit Insurance.*—To be cared for by Sellers at Contract Rate plus 10% through Buyers Agency, with.....

4. *Reimbursement.*—Cash on presentation of documents. Invoices to be for lots of not less than 250 bales unless in completion of the contract.

5. *Extensions.*—It is understood that if the due date of this contract is extended by mutual consent of both parties all other terms and conditions of the contract remain unchanged.

6. *Non-delivery of documents.*—In case of default by Sellers, Buyers have the right to exercise any of the following options:—

- (a) Cancelling the contract on the fifth working day after due date (or earlier at the request of the Sellers), and no documents, although bearing due date, and/or jute, will be accepted thereafter.
- (b) Cancelling the contract on the fifth working day after due date (or earlier at the request of the Sellers), and charging the difference between the contract rate and the market rate on date of cancellation of contract.

7. *Non-acceptance of documents.*—Should Buyers fail to accept or pay against documents properly submitted under the terms of the contract Sellers have the right to exercise any of the following options:—

- (a) Cancelling the contract.
- (b) Cancelling the contract and charging Buyers the market difference between the contract rate and the market rate on the date of the breach of contract.
- (c) Selling against Buyers in the open market on the first working day following the default.

8. *Moisture.*—A maximum of 12% for New Jute shipped in June, July, August and September and 10% for the rest of the season will be allowed.

9. *Claims.*—

- (1) Claims in respect of short weight must be made not later than 5 working days after the arrival of the jute in Buyers' mill. Claims in respect of quality and/or excessive moisture must be made not later than 14 working days after the arrival of the jute in Buyers' mill.
- (2) On application from sellers provided it is received by the mill as soon as possible and in any event not later than the fourth working day after the date of issue of mill's shortweight advice, reweighment by licensed measurers will be allowed of 10 per cent. of each lot contained in each shortweight advice. On such reweighment should any bale of any such lot or lots show a discrepancy of eight pounds or more over or under the declared standard packing then and in such case 25 per cent. of such lot or lots

will be reweighed: this, however, will not preclude the issue of a reweighment order on a basis higher than 25 per cent. if required. The Mill must issue a reweighment order not later than the fourth working day after receipt of the Sellers application and must hold the jute available until reweighment is effected. No reweighment will be permitted later than the third working day following the date of issue of the Mills reweighment order unless the Licensed Measurers Department certify that they are unable to carry out the weighing in the time allowed. Sellers shall pay the costs of the reweighments (including handing charges at the rate of one and half annas per bale) except when the Licensed Measurers weighing shows the shortage not less than 20 per cent. lower than that notified by Buyers in which case the costs are for Buyers account. Should overhead shortage of all deliveries exceed 2 per cent. of the total contract quantity the Buyers may charge the Sellers market difference for excess shortage over 2 per cent., such market difference to be calculated on the difference between the contract price and the price ruling on the date of final weighing.

10. *Unavoidable delay.*—In the event of Sellers being prevented or delayed in carrying out their obligations under this contract by the occurrence of strikes, riots, political or communal disturbances, hartals and/or civil commotions, breakdown of public transport services and suspension of bookings, they shall give immediate intimation thereof to Buyers.

The Sellers' and Buyers' rights will thereupon be as follows:—

- (a) On Buyers being satisfied of the prevention or delay, Sellers shall be granted an extension of time for delivering not exceeding thirty days from due date free of all penalties.
- (b) If contract not implemented within the extended period referred to in (a) Buyers shall thereupon be entitled to exercise any of the following options:—
 - (1) Of cancelling the contract.
 - (2) Of buying against Sellers in the open market on the day on which the option is declared and

charging them with any difference.

- (3) Of cancelling the contract and charging Sellers for the difference between contract and market rates on the day on which the option is declared.

Sellers shall notify Buyers that goods will or will not be shipped within such extended period referred to in (a) and in the case of Sellers intimating that they will be unable to ship within the extended time Buyers shall exercise their option within 5 working days of receiving such notice and notify Sellers. In the absence of any such notice from Sellers it shall be deemed that the goods have not been shipped and Buyers shall exercise their option within 5 working days after expiration of extended date and notify Sellers.

11. Both parties to this Contract agree that should at any time either of them for any reason whatsoever be placed on any Disapproved Lists of the Indian Jute Mills Association such party shall be deemed to have committed a breach and be in breach of Contract and so that the other party shall thenceforth be under no obligation whatsoever under the Contract but shall be entitled forthwith to claim for and recover all damages both direct and consequential as are or may be occasioned and/or suffered by the breach and the measure of which may be based upon the difference between the contract price and the market price or prices as prevailing on the date on which the party not in breach receives notice of the other party having been placed on the Disapproved List.

12. *Arbitration.*—All matters questions disputes differences and/or claims arising out of and/or concerning and/or in connection with and/or in consequence of or relating to this Contract whether or not the obligations of either or both parties under this contract be subsisting at the time of such dispute and whether or not this contract has been terminated or purported to be terminated or completed shall be referred to the arbitration of the Bengal Chamber of Commerce under the rules of its Tribunal of Arbitration for the time being in force and according to such rules the arbitration shall be conducted.

13. Additionally the respective rights and obligations of the parties shall, in respect of all other pending or future contracts

between them be such as if the preceding clauses were specifically included in such contracts.

14. *Holidays and working days.*—Notice which would fall to be given upon a holiday which is a public holiday shall be given on the next working day following such holiday; and if this contract falls due on a holiday which is a public holiday it shall be deemed to fall due on the business day next preceding such holiday. Public Holiday means a holiday under the Indian Negotiable Instruments Act. Working day means any day which is not a public holiday.

Yours faithfully,

Brokers.

Bengal Chamber of Commerce.

Tribunal of Arbitration.

Rules.

Interpretation.

Interpretation Clause—

I. The marginal notes hereto shall not affect the construction hereof, and in these Rules the following words have the following meanings:—

- (1) "Chamber" means the Bengal Chamber of Commerce.
- (2) "Members" means the members for the time being of the Chamber.
- (3) "Tribunal" means the Tribunal of Arbitration hereby constituted.
- (4) "References" means any submission or agreement to refer differences or disputes to the Tribunal.
- (5) "Party" shall include an individual, a firm or a company.
- (6) "Court" means the Arbitrator or Arbitrators appointed for determining a particular dispute, or the Umpire where an Umpire has been appointed and is acting in the arbitration.

Objects and Constitution of Tribunal.

Objects—

II. The object of the Tribunal is the determination, settlement and adjustment of disputes and differences relating to trade, business, manufacturers, and to customs of trade, between parties, all or any of whom reside or carry on business personally, or by agent or otherwise in Calcutta, or elsewhere in India or

Burma, by whomsoever of such parties the said disputes and differences be submitted.

Constitution—

III. (1) The Tribunal shall consist of and be constituted by such members or assistants to members as may, from time to time, annually or otherwise be selected by the Registrar as hereinafter mentioned and be willing to serve on the Tribunal.

(2) The Registrar shall from time to time, annually or otherwise as he shall consider necessary, select and make a list of such members and/or assistants to members as may be willing to serve to constitute the Tribunal for the time being, and shall circulate to all members a printed copy of such list, and may, if he thinks fit, supply a copy of the said list to persons other than members applying for the same.

(3) The Registrar may at any time, if he thinks proper so to do, add to the said list the names of other persons qualified as aforesaid, and it shall not be necessary in such case to print or to circulate any list of the added names, but a list of the members of the Tribunal complete for the time being shall be kept by the Registrar, and shall always be open to inspection by members on application and, at the discretion of the Registrar, also by persons other than members.

Registrar—

IV. The Secretary, or acting Secretary, for the time being of the Chamber, shall be and he is hereby appointed to be and to act as the Registrar of the Tribunal and his duty as such shall ordinarily consist of or include the following:—

He shall, by himself or his subordinates, receive submissions, references, or applications to the Tribunal and receive payment of fees and costs; constitute the Court; receive all applications made to the Court by the parties, and communicate to them the orders and directions of the Court; keep a register of submissions, references and applications to the tribunal and of awards, and such other books and memoranda, and make such returns as the Chamber or the Tribunal shall from time to time require, and generally carry out the directions of the Court, and take such steps as may be necessary to assist the Court in the execution of its functions.

Constitution of Court.

Appointment of Arbitrators—

V. (1) In every case where a dispute has arisen either in relation to a contract which provides for a decision thereof by the

Chamber or the Tribunal, or in relation to a contract which does not so provide, but the parties to which have by a special agreement signed by them referred the particular dispute for settlement by the arbitration of the Chamber or of the Tribunal, an application for arbitration may be addressed by either party to the Registrar, which application, in the case of disputes relating to piece-goods, shall be in such form as the Committee of the Chamber may from time to time prescribe.

(2) On receipt of such application, the Registrar shall constitute a Court for the adjudication of the dispute by appointing and nominating in writing two Arbitrators, selected by him from the Tribunal constituted as aforesaid; or if the parties so desire, one Arbitrator only, or three Arbitrators.

(3) The consent to act of the Arbitrator or the Arbitrators shall be obtained by the Registrar, and arbitration shall forthwith proceed in accordance with these rules.

(4) In the events of the Arbitrators disagreeing, the Registrar shall appoint and nominate an Umpire to be selected from the list aforesaid, and whose consent to act shall be obtained by the Registrar to constitute the Court for the adjudication of the said dispute, and such Umpire shall then proceed with the arbitration in accordance with these rules.

Arbitrators to have practical knowledge—

VI. In making any appointment and nomination as aforesaid the Registrar shall select, as far as possible, persons or a person having a practical knowledge of the subject-matter of the contract or contracts in question and the Registrar shall not appoint any person who for any reason within his knowledge would not be a proper person to act as Arbitrator or Umpire in the particular matter; but no award shall be invalid nor shall any objection be taken thereto by any party, on the ground that any person so nominated and appointed did not possess such practical knowledge, or was not in fact a proper person to act as Arbitrator or Umpire, but whose unfitness was unknown to the Registrar.

Name of Arbitrators—

VII. The names or name of the persons or person constituting the Court shall not ordinarily be disclosed to the parties nor shall the parties be entitled to such information as of right. In the event of any of the parties applying on special grounds (to be specified in writing to the Registrar) for the disclosure of the said names or name the decision as to whether such disclosure shall be made or not shall rest in the absolute discretion of the

Registrar. The non-disclosure of the said names or name shall not in any case affect the validity of the arbitration proceedings, or of any award therein, nor afford ground of objection to the filing of the award.

Arbitrator failing to act—

VIII. If any Arbitrator or Umpire decline or fail to act, or if he die, or become incapable of acting, the Registrar may substitute and appoint a new Arbitrator or Umpire in manner aforesaid, and the Court so reconstituted shall proceed with the arbitration with liberty to act on the record of the proceedings as then existing and on the evidence, if any, then taken in the arbitration, or to commence the arbitration *de novo*.

Conduct of Arbitrations.

Statement to be filed within specified time.

IX. The parties shall within such time as may be directed by the Court, prepare and submit to the Registrar a written statement of their respective cases.

Enlargement of time for submission of statement.

X. The Court may at its discretion enlarge the time for submission of a written statement, but it shall not be bound to receive or to consider any written statement of either party tendered after the expiration of the original or subsequently extended time as the case may be.

Communications to be made through the Registrar—

XI. All applications which the parties desire to make to the Court, and all notices to be given to the parties before or during the course of the arbitration, or otherwise in relation thereto, shall be made through the Registrar who shall communicate the orders and directions of the Court thereon to the parties.

Obligations of the parties—

XII. The said parties, respectively, shall do all the acts necessary to enable the Court to make a just award, and shall not wilfully do or cause or allow to be done any act to delay or to prevent the Court from making an award, and if either party shall do or cause or allow to be done any such act, that party shall pay to the other such costs as the Court shall deem reasonable.

Hearing—

XIII. Unless oral evidence beyond mere proof of documents of which the factum is not disputed is taken, it shall not be necessary to have a formal hearing of a reference before the Court; but in all cases the Court shall have power to appoint a

time and place for the hearing of references when it considers a hearing to be necessary.

Appearance of parties—

XIV. No party to a reference shall, without express permission of the Court, be entitled to appear by Counsel, Attorney or other Advocate or Adviser, before the Court, but the Court at its discretion may, through the Registrar, require the parties, with or without witnesses, to attend before it or before any Committee or Sub-Committee of the Chamber to be examined on or without oath or solemn affirmation.

Evidence—

XV. The parties to the reference, and all persons claiming through them, respectively, shall, subject to the provision of any law for the time being in force, submit to be examined by the Court on oath or affirmation in relation to the matters in dispute, and shall, subject as aforesaid,—produce before the Court all books, deeds, papers, accounts, writings and documents within their possession or power, respectively, which may be required or called for by the Court ;

comply with the requirements of the Court as to the production and selection of samples ;
and generally do all other things, which during the proceedings on the reference, the Court may require.

Absence of parties—

XVI. The Court may proceed with the reference notwithstanding any failure to file a written statement within due time and may also proceed with the reference in the absence of any or both of the parties who under these Rules is entitled to appear and being desirous of appearing before the Court shall, after due notice, refuse or neglect to attend.

Arbitrators empowered to consult Committees and Solicitors or Counsel—

XVII. The Court may at its own instance at any time or times before making a final award, and at the expense of the parties consult, refer to, and act on and adopt the advice, recommendations or suggestions of any Committee or Sub-Committee of the Chamber having or exercising special jurisdiction or powers relating to the particular industry, commodity, produce or branch of trade concerned in the reference or of any experts whether members or not. The Court may also, at the like expense of the parties, consult and adopt the advice of Solicitors or

Counsel upon any question of law, evidence, practice or procedure arising in the course of the reference.

Awards.

Decision of majority—

XVIII. In cases where the Court shall consist of more than two Arbitrators the decision of the majority shall be taken as the decision of the Court.

Time for making award by Arbitrators—

XIX. The Court shall make its award in writing within thirty days after entering on the reference or on or before any later day to which the Court, by any writing signed by them, may from time to time, enlarge the time for making the award.

Time for making award by Umpire—

XX. The Umpire shall make his award within thirty days after his entering upon the reference or on or before any later day to which he, by any writing signed by him, may from time to time, enlarge the time for making his award.

Extension of time—

XXI. If the Court have allowed the time or extended time to expire without making any award, and without having signified to the Registrar that they cannot agree, the Registrar shall constitute in manner aforesaid another Court which shall proceed with the arbitration and shall be at liberty to act upon the record of the proceedings as then existing and on the evidence, if any, then taken in the arbitration or to commence the arbitration *de novo*.

Extent of Award—

XXII. The Court may, by its award, order and determine what it shall think fit to be done by either of the said parties, respecting the matters referred.

Signatures to and issue of Awards—

XXIII. The decision or award of every Court shall be signed by the Court and by the Registrar. When completed, a copy of the award shall be sent by the Registrar to each of the parties, but the name or names of the members of the Court shall not ordinarily be disclosed on such copy and such non-disclosure shall not affect the validity of the award nor afford any ground of objection to the same being filed.

Award binding on parties—

XXIV. The parties shall in all things abide by and obey the award, which shall be binding on the parties and their respective representatives notwithstanding the death of any party before

or after the making of the award, and so that such death shall not operate as a revocation of the submission.

Setting aside of Awards—

XXV. Subject to the operation of section 14 of the Indian Arbitration Act, 1899, no objection shall be taken or be entertained to any application to file an award, nor shall any award be set aside or varied or attempted to be set aside or varied by reason or on account of any informality, omission, delay, or error in the proceedings or of any neglect, omission, delay, mistake or error by the Court in or about the same or in relation thereto.

Further Award—

XXVI. Whenever an award directs that a certain act or thing shall be done by one party to the reference, *e.g.*, delivering or taking (with or without allowance) delivery of goods and such party fails to comply with the award, the party in whose favour the award is made may make a fresh application for a further award determining the amount of damages or compensation payable by reason of such failure, and the Registrar, on receipt of such application, shall proceed to constitute a new Court, which may or may not consist of the same or of one or more of the members constituting the Court who made the first award, and the new Court shall proceed under these rules to arbitrate on the said application and the award thereon may be filed separately or together with the original award.

Fees.

XXVII. (1) The said parties shall pay as and when demanded by the Registrar all fees, charges and expenses incident to the reference and the award thereon according to the scale prescribed, for the time being, by the Committee of the Chamber, and all further fees, charges and expenses falling under rule XVII.

(2) Any party making such payment may recover the whole or any part of the sum so paid from any other party ultimately held by the Court to be liable to pay the same.

(3) Unless the Court shall otherwise direct, no rebate or refund shall be claimed or made in respect of fees, charges or expenses when once incurred, or paid.

XXVIII. The cost of the reference and award including fees payable, according to the scale aforesaid, to the Court shall be in the discretion of the Court, who may direct to and by whom and in what manner and in what proportion such costs or any part thereof shall be borne and paid, and may tax and settle the

amount of costs to be so paid or any part thereof, and may award costs to be paid as between solicitor and client.

Immunity of Arbitrators.

XXIX. Neither of the parties shall bring or prosecute any suit or proceeding whatever against the Court, or any member thereof, for or in respect of the matters in dispute or any of them or of the arbitration nor any such suit or proceeding (save for the enforcement of the award) against the other party.

Notices.

XXX. All notices required by these rules to be given, shall be in writing and shall be sufficiently given if left at the last known place of abode or business of the party to whom the notice is addressed, or if sent by post prepaid addressed to him by name at such place of abode or business, and not returned through the post undelivered, before signature of the award by the Court and shall, if sent by post, be deemed to have been given at the time at which the letter would in the ordinary course be delivered. In the case of a contract entered into by an agent in Calcutta on behalf of a person having no place of business there, the place of abode, or business of the agent shall be deemed that of the party. Every determination and award of the Court shall be deemed and taken for all purposes to be the determination and award of the Tribunal or the Chamber, as the case may be.

APPENDIX K

Production by Individual Growers (1937-38)

District	Percentage of growers producing				
	0-5 mds.	5-10 mds.	10-20 mds.	20-30 mds.	Over 30 mds.
Bengal					
Dacca	12.9	22.4	26.6	14.8	23.3
Mymensingh	17.3	22.6	26.5	12.6	21.0
Tippera	13.0	24.2	27.6	19.8	15.4
Faridpur	14.5	18.7	25.1	15.2	26.5
Rangpur	14.8	31.7	31.1	12.6	9.8
Rajshahi	10.5	22.8	22.4	13.9	30.4
Dinajpur	22.5	32.5	24.9	13.6	6.5
Bogra	14.8	22.5	31.1	16.3	15.3
Jalpaiguri	68.2	17.2	11.4	1.9	1.3
Malda	9.8	47.5	19.7	14.8	8.2
Murshidabad	25.5	43.9	22.5	6.1	2.0
Jessore	25.4	22.4	31.3	8.5	12.4
Khulna	9.1	38.2	47.3	1.8	3.6
Nadia	33.6	32.8	22.1	8.8	2.7
24-Parganas	20.4	34.1	28.9	10.9	5.7
Bihar					
Purnea	23.8	21.1	27.9	12.2	15.0
Assam					
Sylhet	37.9	23.8	22.4	10.7	5.2
Goalpara	35.0	25.8	25.3	6.5	7.4
Kamrup	14.5	8.1	27.5	24.1	25.8
Nowgong	30.1	10.2	27.5	12.3	19.9
Orissa	28.0	20.0	24.0	16.0	12.0

APPENDIX L
Price Structure—1937
(Per maund)¹

Particulars	Ashuganj			Netrakona			Tarpassa			Nakalia			Charmugaria			Domar		
	Sept.	Oct.	Nov.	Sept.	Oct.	Nov.	Sept.	Oct.	Nov.	Sept.	Oct.	Nov.	Sept.	Oct.	Nov.	Sept.	Oct.	Nov.
1. Average price received by growers at their holdings.	R. a. p. 5 6 0	R. a. p. 5 2 10	R. a. p. 5 9 3	R. a. p. 4 11 5	R. a. p. 5 0 7	R. a. p. 5 2 10	R. a. p. 4 13 6	R. a. p. 5 0 0	R. a. p. 5 0 0	R. a. p. 4 9 0	R. a. p. 4 11 9	R. a. p. 4 10 3	R. a. p. 4 9 7	R. a. p. 4 15 5	R. a. p. 5 5 2	R. a. p. 5 1 4	R. a. p. 5 2 8	R. a. p. 4 7 1
2. Handling expenses at Villages.	0 0 3	0 0 3	0 0 3	0 0 3	0 0 3	0 0 3	0 0 3	0 0 3	0 0 3	0 0 3	0 0 3	0 0 3	0 0 3	0 0 3	0 0 3	0 0 3	0 0 3	0 0 3
3. Transport charges from interior to baling stations.	0 1 9	0 1 9	0 1 9	0 1 9	0 1 9	0 1 9	0 1 9	0 1 9	0 1 9	0 1 9	0 1 9	0 1 9	0 1 9	0 1 9	0 1 9	0 2 6	0 2 6	0 2 6
4. Market allowances.	0 2 0	0 2 0	0 2 0	0 0 10	0 0 10	0 0 10	0 2 9	0 2 9	0 2 9	0 2 0	0 2 0	0 2 0	0 4 0	0 4 0	0 4 0	0 4 4	0 4 4	0 4 4
5. Handling expenses at baling centres. ²	0 1 2	0 1 2	0 1 2	0 1 9	0 1 9	0 1 9	0 1 1	0 1 1	0 1 1	0 1 0	0 1 0	0 1 0	0 1 6	0 1 6	0 1 6	0 1 4	0 1 4	0 1 4
6. Net freight to Calcutta.	0 7 0	0 7 0	0 7 0	0 9 1	0 9 1	0 9 1	0 5 9	0 5 9	0 5 9	0 6 3	0 6 3	0 6 3	0 5 6	0 5 6	0 5 6	0 11 2	0 11 2	0 11 2
7. Standing charges at baling centres	0 4 0	0 4 0	0 4 0	0 4 0	0 4 0	0 4 0	0 4 0	0 4 0	0 4 0	0 4 0	0 4 0	0 4 0	0 4 0	0 4 0	0 4 0	0 4 0	0 4 0	0 4 0
8. Standing charges at Calcutta.	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0	0 2 0
9. Calcutta landed price.	6 8 2	6 5 0	6 5 11	5 15 1	6 4 3	6 6 6	5 15 1	6 1 7	6 1 7	5 10 3	5 13 0	5 11 6	5 12 7	6 2 5	6 8 2	6 10 11	6 12 3	6 0 8
10. Average loose jute price in Calcutta. ³	6 9 9	6 4 5	6 7 10	6 4 6	6 6 9	6 5 0	6 8 6	6 5 11	6 3 6	5 14 0	6 2 0	5 15 9	6 7 0	6 0 4	5 14 9	6 2 9	6 4 5	6 2 9
11. Total margin available for various intermediaries.	(+) 0 1 7	(-) 0 0 7	(-) 0 3 7	(+) 0 5 5	(+) 0 2 6	(-) 0 1 6	(+) 0 9 5	(+) 0 4 4	(+) 0 1 11	(+) 0 3 9	(+) 0 5 0	(+) 0 4 3	(+) 0 10 5	(-) 0 2 1	(-) 0 9 5	(-) 0 8 2	(-) 0 7 10	(+) 0 2 1

¹ To ensure uniformity, all calculations have been made on the standard unit of weight of 80 tolas per seer.

² Includes unloading, selecting, baling and exporting.

³ These prices are based on the actual grade outturns of European balers as shown in Table LVI for Ashuganj, Tarpassa, Charmugaria and Nakalia. The grade outturns for Netrakona were 4's—13%, R's—68% and T. J—16%. and for Domar 3's—5%, 4's—35%, R's—35% and T. J—25%. They are, therefore, the average calculated prices of graded jute, and not the actual Calcutta market quotations.

APPENDIX M
Export of Raw Jute to Foreign Countries¹
 (000's bales of 400 lb.)

Countries (in order of importance)	1929-30	1930-31	1931-32	1932-33	1933-34	1934-35	1935-36	1936-37	1937-38	1938-39	Average percentage of 10 years
United Kingdom	923	634	865	725	912	933	930	1,043	811	1,025	22.2
Germany	1,212	946	733	682	926	743	851	836	801	774	21.4
France	596	500	290	386	469	465	421	473	364	426	11.0
U. S. A.	445	297	275	201	290	289	445	488	555	174	8.7
Italy	307	236	247	210	864	487	275	427	408	258	8.1
Belgium	259	268	257	228	313	335	312	332	306	271	7.2
Spain	250	185	199	237	199	241	285	94	26	57	4.4
Brazil	103	85	88	74	107	100	111	117	143	137	2.7
Netherlands	121	109	68	123	155	122	109	71	104	61	2.6
Japan	90	34	56	81	97	130	152	188	84	81	2.4
Egypt	88	81	50	30	50	46	69	87	25	49	1.5
China	45	44	50	57	59	68	70	77	86	38	1.5
Argentina	33	30	39	40	48	51	39	54	59	59	1.1
U. S. S. R.	3	10	17	negligible	2	20	85	48	143	74	1.0
Sweden	2	2	4	18	30	37	36	33	36	36	0.6
Poland	negligible	negligible	63	2	20	15	40	55	43	36	0.5
Australia	3	3	6	8	5	7	8	8	11	11	0.2
Others ²	39	43	42	44	74	126	101	160	180	301	2.9
Total (official year)	4,519	3,470	3,286	3,152	4,190	4,215	4,319	4,591	4,185	3,866	100

¹ For official years—April to March.

² Includes figures for Irish Free State, Gibraltar, Strait Settlements, Federated Malay States, Hongkong, Canada, New Zealand, Finland, Norway, Denmark, Portugal, Austria, Hungary, Czechoslovakia, Yugoslavia, Rumania, Greece, Cuba, Mexico, Uruguay, Chile and Madagascar.

Source—Annual Statement of the Sea-borne Trade of British India.



INDIAN
CENTRAL JUTE COMMITTEE



Report on the
MARKETING
OF
JUTE
AND
JUTE PRODUCTS

Second Report

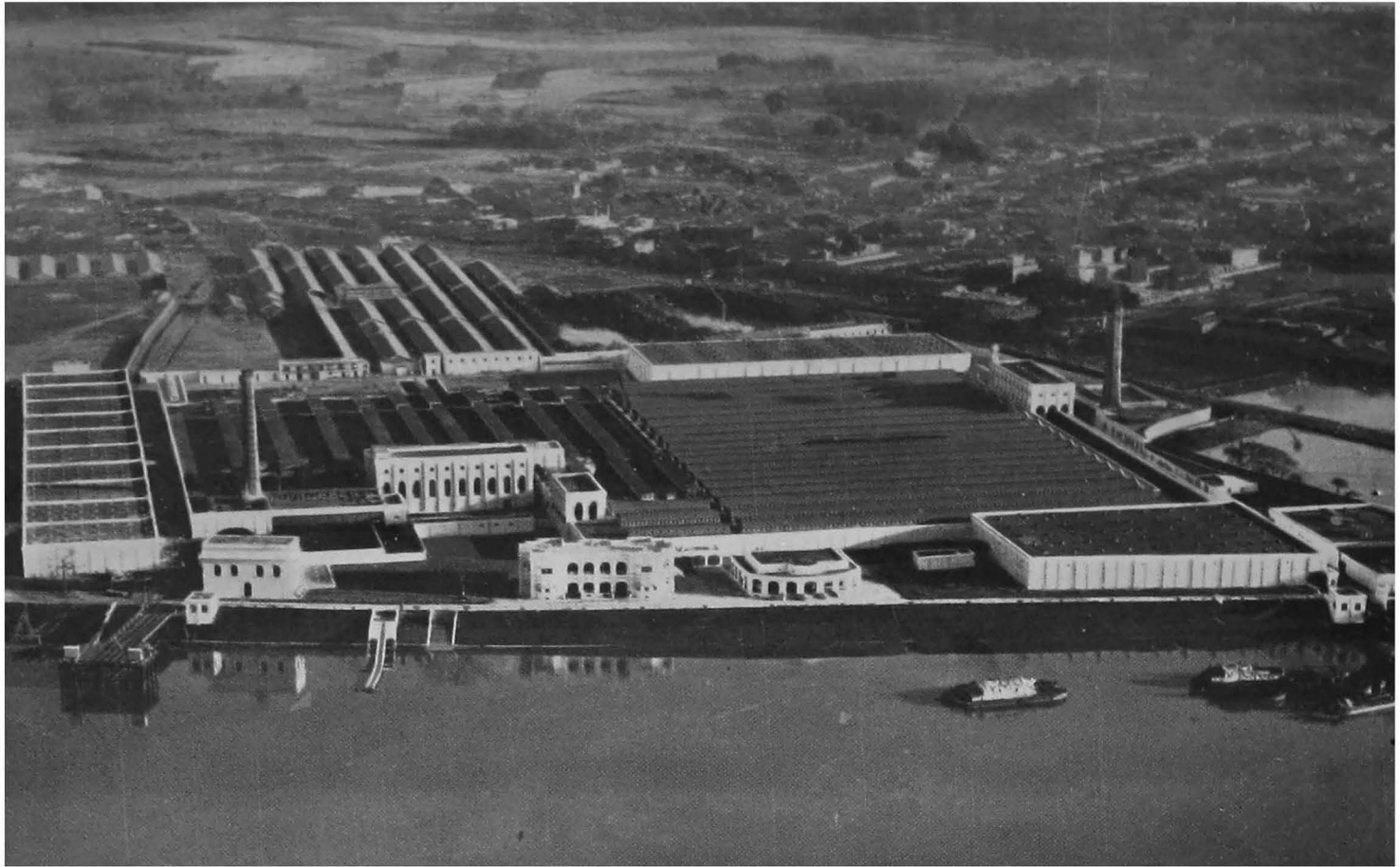
PUBLISHED BY THE SECRETARY,
INDIAN CENTRAL JUTE COMMITTEE, CALCUTTA
1941

Price—Rs. 2-8-0 or 4s.

X9(MJ75):5.2.N46

H1

1 by S. N. Guha Ray, B.A., at Sree Saraswaty Press
32, Upper Circular Road, Calcutta.



VIEW OF A JUTE MILL

(Courtesy of A. S. Gillies)

FOREWORD

The present Report brings to an end the Enquiry into the Marketing and Transport of Jute that was inaugurated by the Indian Central Jute Committee nearly four years and a half ago. Those who read the First Report on this subject, issued about a year ago, will recall the circumstances in which this Enquiry was initiated and carried out. In his Preface to that Report, the Secretary of the Committee indicated the scope of the present volume and foreshadowed its issue at an early date. The Committee regret that several unforeseeable factors have belied their earlier expectation in this regard, and delayed the publication of this Report.

As the Marketing Survey undertaken by the Committee is now over, they desire to place on record their appreciation of the services of their Marketing staff, which until lately consisted of Mr. A. S. Low (Senior Marketing Officer), Dr. S. A. Husain (Marketing Officer), Mr. M. R. Kazimi (Senior Assistant Marketing Officer) and Mr. S. M. Gupta (Assistant Marketing Officer). While the work on the present Report was in progress, the Committee were deprived of the services, first of Mr. M. R. Kazimi and then of Mr. A. S. Low, but thanks to the keenness of the attenuated staff, it was possible to place the draft of this Report in the hands of the printers without undue delay.

The Committee also desire to take this opportunity of acknowledging the services of all those that have helped their Marketing Enquiry, at various stages of its progress, during the last four years and a half. The assistance received from the late Agricultural Marketing Adviser to the Government of India, Mr. A. M. Livingstone, and his collaborators was invaluable, while the help obtained from the Directors of Agriculture of the jute-growing provinces, and the Marketing staff employed in them was

ungrudging and sustained. Chambers of Commerce and Trade Associations, particularly those connected with jute, co-operated with the Enquiry fully and at all times, while the heads and other experts of several jute firms in Calcutta and the mofussil gave freely of their time and talents to keep the Committee's staff fully informed of the factors and forces operating in the market. As it would be invidious to mention names, the Committee refrain from doing so, but they desire to make a particular reference to the assistance given to their Marketing staff by the Indian Jute Mills Association by the supply of information, statistics and otherwise, at various stages of the Marketing Survey.

OFFICE OF THE
INDIAN CENTRAL JUTE COMMITTEE.

4, HASTINGS STREET, CALCUTTA.

The 28th November, 1941.

CONTENTS

	PAGE
Chapter I—The Jute Manufacturing Industry	1- 24
A. THE HAND-LOOM INDUSTRY	I
1. Origin of the industry	I
2. Its rise to prominence	2
3. Types of goods produced	2
(a) Cordage	2
(b) Gunny cloth and bags	2
(i) <i>Gun, Tat</i> or <i>Chat</i>	2
(ii) <i>Mekli</i> or <i>Dokhra</i>	3
(iii) <i>Gun-Chat</i> or <i>Kacha Chat</i>	3
(c) Paper making	5
4. Present position	5
(a) Location of the industry	5
(i) East Bengal	6
(ii) North Bengal	6
(iii) South and West Bengal	6
(b) Methods employed to spin and weave yarn	6
(i) Spinning process	6
(ii) Weaving	7
(c) Wages earned	8
(d) Types of fabrics produced	8
(e) Methods of marketing	9
(i) Hessian strips	9
(ii) Bogra goods	10
(f) Consumption of jute by the industry	10
B. THE ORIGIN AND DEVELOPMENT OF THE POWER LOOM INDUSTRY	11
General	11
1. United Kingdom	11
2. India	12
3. United States of America	13
4. France	13
5. Germany	13
6. Belgium	14
7. Austria	14
8. Russia	14
9. Italy	15
10. Poland	15
11. Czechoslovakia	15
12. South America	15
13. Far East	16
14. Spain	16
15. Canada, Australia and South Africa	16
16. Norway and Sweden	16
17. Other countries	17
18. Estimated total number of jute looms in all countries	17

	PAGE
C. JUTE MILL INDUSTRY IN INDIA	18
1. Review of progress from 1855 to 1940	18
2. Location of mills	19
3. Number of looms—Hessian and Sacking	20
4. Loom widths	22
5. Special looms	23
Chapter II—Organization of the Industry in India	25-50
A. THE MANAGING AGENCY SYSTEM	25
B. THE ORIGIN AND ACTIVITIES OF TRADE ASSOCIATIONS	26
1. Indian Jute Mills Association	26
2. Calcutta Jute Fabric Shippers Association	30
3. Gunny Trades Association	33
4. Jute Fabric Brokers Association	34
5. Calcutta Hessian Exchange Ltd.	36
C. ECONOMIC IMPORTANCE OF JUTE INDUSTRY	37
1. Capital invested	38
2. Labour employed and their average earnings	39
3. Revenue from export duty	42
4. Support to other industries	44
(a) Coal	44
(b) Railway and steamer companies	44
(c) Steel, iron, wood and leather	45
D. WORKING HOURS AGREEMENTS	...
Chapter III—Utilization of Jute for Manufacture	51-86
A. INTERNAL ORGANIZATION OF MILLS	51
1. Departmental distribution	51
2. Staff	52
(a) Manager	52
(b) Engineer	52
(c) Textile and mechanical staff	52
(d) Clerical staff	53
3. System of working	53
4. Labour	53
B. PROCESS OF MANUFACTURE	54
General	54
1. Batching	55
(a) Hand and machine	56
(b) Softener	56
2. Preparing	56
(a) Carding	57
(i) Breaker card	57
(ii) Finisher card	58
(b) Drawing	58
(c) Roving	59
3. Spinning	59
(a) Twisting	60
(b) Reeling	60
4. Winding	60
(a) Warp or spool	61

	PAGE
(b) Weft or cop	61
(c) Dressing and Beaming	61
5. Weaving	62
6. Finishing	63
(a) Cropping	63
(b) Damping	63
(c) Calendering	64
(d) Mangling	64
(e) Lapping or folding	64
(f) Cutting and sack sewing	64
(g) Packing and Baling	65
C. TYPES OF GOODS MANUFACTURED	65
General	65
1. Hessian	66
2. Sacking	66
3. Canvas	66
4. Yarn and twine	67
(a) Jute twine	67
(b) Country twine	67
(c) Export twine	67
(d) Sacking twine	67
5. Standard sizes of sacking and hessian products	67
General	67
(a) Sacking bags	69
(b) Hessians	70
(c) Canvas	70
6. Ropes and Cords	71
(a) Cottage industry for rope and cord making	71
(b) Products of rope works	72
(c) Rope for jute and gunny bales	72
D. MANUFACTURE OF SUPERIOR CLASSES OF JUTE FABRICS	72
General	72
1. Rugs and carpets	73
2. Waterproof cloth	73
3. Roofing fabric	73
4. Linoleum hessian	73
5. Union fabrics	74
6. Experiments now in progress to find new uses for raw and manufactured jute	74
E. MANUFACTURING COSTS	75
1. Cost of jute	75
2. Working charges	75
(a) Establishment	76
(b) Power plant	76
(c) Oil	76
(d) Stores	76
(e) Transportation of goods	76
(f) Jute handling charges	76
(g) Welfare establishment	76
(h) Miscellaneous charges	76

	PAGE
F. CONSUMPTION OF JUTE BY MILLS	76
1. Quantitative	76
2. Qualitative	78
(a) Calcutta mills	78
(b) Mills outside Bengal	81
G. INDIAN MILLS' TOTAL PRODUCTION OF JUTE GOODS OF ALL TYPES	81
General	81
1. Quantities and types of goods manufactured	82
2. Average daily production of representative fabrics	84
H. QUALITY CLASSIFICATION	85
General	85
1. Hessian	85
2. Sacking	86
apter IV—The Marketing of Jute Products	87-138
A. FUNCTIONARIES IN THE TRADE	87
General	87
1. Jute Fabrics Shippers	88
2. Speculative Dealers and Shippers	90
3. Bazar Dealers	91
4. Broker Dealers (Jobbers)	93
5. Brokers	93
(a) Jute Fabrics	93
(b) Freight brokers	95
(c) Exchange brokers	96
B. METHODS OF SALE	96
1. Mills' selling procedure	96
(a) Sales in India under I.J.M.A. Contract	97
(i) Calcutta mills	97
(ii) Mills upcountry	98
(iii) Calcutta shippers and bazar dealers	98
(b) Options, declarations and penalties	98
(c) Deliveries	99
(i) Shipping Instructions	99
(ii) Delivery Orders	100
2. Wholesale and retail sales in Calcutta	101
3. Sales Overseas	103
(a) General procedure	103
(b) Contracts	104
4. Expenses involved in exporting jute fabrics	105
(a) Shippers' overhead charges	105
(b) Operating charges	105
(c) Freight	106
(d) Landing charges at port of destination	106
(e) Summary of charges	106
C. CONSUMPTION OF MANUFACTURED GOODS	108
1. Internal consumption	108
(a) Quantitative	108
(b) Qualitative	110
2. Factors governing quantitative consumption	110

	PAGE
3. Trend of exports from 1921 to 1939	112
4. Trend of consumption in relation to productive capacity	114
5. Trend according to types of manufacture	117
6. Trend according to countries and types	119
(a) Cloth	119
(b) Bags	121
(c) Quality consumption	125
D. CLAIMS AND ARBITRATIONS	130
E. SUBSTITUTES OF RAW AND MANUFACTURED JUTE	132
apter V—Jute Export Trade	137-148
A. JUTE TRADE IN NINETEENTH CENTURY	137
B. THE ORGANIZATION OF THE INDUSTRY	138
1. General	138
2. The jute pressing industry	139
General	139
(a) The opening of press houses	139
(b) Cutting	140
(c) Rejections	141
(d) The evolution of standards and marks	141
3. Trade Associations	142
(a) In Calcutta	142
(i) The Calcutta Hydraulic Press Association	142
(ii) The Calcutta Baled Jute Association	144
(iii) The Calcutta Baled Jute Shippers Association	145
(iv) Jute Balers' Association	146
(v) The East India Jute Association Ltd.	146
(b) In Foreign Countries	147
(i) The London Jute Association	147
(ii) United Kingdom Jute Goods Association	147
(iii) Association of Jute Spinners and Manufacturers, Dundee	147
(iv) Jute Importers' Association Ltd., Dundee	148
(v) Dundee Jute and Linen Goods Merchants' Association	148
(vi) Union des Tisseurs de jute, Belgium (Union of Jute Manufacturers)	148
(vii) Union belge des Filateurs de Lin Chanvre et Jute, Belgium. (The Union of Linen, Hemp and Jute Spinners)	148
(viii) Vereinigung von Importeur und Exporteur von Jute-producten, Holland. (Association of Importers and Exporters of Jute Products)	148
(ix) Berufsverband der Deutschen Jute-Industrie, E. V. (The Society of German Jute Industry)	148
(x) Gesellschaft des Verbands Deutsches Jute Industrieller. (Union of German Jute Industrialists)	148
(xi) Vereinigte Osterreichische Jute Industrieller. (The Union of Austrian Jute Industrialists)	148
(xii) Jute & Gunnies Importers' Association of New York	148

	PAGE
apter VI—The Marketing of Jute for Export	148-161
A. FUNCTIONARIES ENGAGED IN THE TRADE	149
General	149
1. Balers and exporters	149
2. Hydraulic pressing concerns	149
3. Baled jute shippers	150
4. Brokers	150
B. METHODS OF DEALING	150
1. Buying of loose jute	150
(a) From Calcutta merchants and brokers	150
(b) At Calcutta markets	151
(c) At press-houses	151
2. Sales of pucca bales	151
(a) General	151
(b) Calcutta sales	152
(i) Under Indian Jute Mills Association contract	152
(ii) Under Calcutta Baled Jute Association contract	152
(c) Sales overseas	154
(i) London and the Continent	154
(ii) Dundee	154
(iii) United States of America	155
3. Varieties and classes of jute used for export marks	155
(a) General	155
(b) Classes of marks	156
(i) Public marks	156
(ii) Short groups	156
(iii) Private marks	157
(c) Description of qualities in each mark	157
(i) White jute	157
(ii) Tossa Jute	158
(iii) Daisee jute	158
(iv) Dacca marks	158
(v) Cuttings	159
(d) Dundee standards	159
C. PREPARATION FOR EXPORT	160
1. Location of presses	160
2. Internal organization of baling presses in Calcutta	161
(a) General	161
(i) Importing godowns	161
(ii) Assorting godowns	161
(iii) Pressing godowns	161
(iv) Rope-alley	161
(v) Power house	161
(vi) Offices	162
(b) Administration and Staff	162
(c) Press-house labour	162
3. Mofussil presses	162
4. Process of baling	163
(a) General	163
(b) Importing	163
(c) Assorting	163

(d) Baling	164
(i) Care in baling	165
(ii) Over-pressing	165
(e) Exporting	166
(f) Cuttings	166
D. EXPENSES INVOLVED IN PREPARING AND SHIPPING JUTE	166
1. General	166
2. Standing or fixed charges	167
3. Working charges	167
(a) General handling	167
(b) Importing	168
(c) Assorting	168
(i) White jute	168
(ii) Tossa	168
(iii) Daisee	168
(iv) Cuttings	168
(d) Kutcha bale ropes	169
(e) Ropes and ropemaking	169
(f) Pressing charges	169
(g) Exporting	170
(h) Hessian bale ticket	170
(i) Boat charges	171
(j) Wastage	171
(k) Saving through difference in weight	171
(l) Items of expenditure connected with shipping	171
(i) Jute export duty	172
(ii) Calcutta Improvement Trust Cess	172
(iii) Port Commissioner's charges	172
(iv) Sewer toll charges	172
(v) River toll	172
(m) Brokerage	172
(n) Freight and insurance	172
(o) Summary of charges	172
E. CLAIMS AND ARBITRATIONS	174
1. Lose jute purchases (Calcutta)	174
(a) Indian Jute Mills Association Contract	174
(b) Balers private contracts	175
(c) Bazar purchases	175
2. Pucca bales	175
(a) Calcutta	175
(b) Overseas	176
(i) London	176
(ii) Dundee	177
F. SHIPMENTS FROM CHITTAGONG	178
G. ANALYSIS OF CONSUMPTION IN FOREIGN COUNTRIES	179
1. Quantitative analysis	179
(a) General	179
(b) Consumption by important manufacturing countries	180
(i) United Kingdom	180
(ii) Germany	181
(iii) France	181

	(iv) United States of America	...	...	182
	(v) Italy	...	...	182
	(vi) Belgium	...	...	183
	(vii) Spain	...	...	183
	(viii) Brazil	...	...	183
	(ix) Holland	...	...	183
	(x) Japan	...	...	184
	(xi) Egypt	...	...	184
	(xii) China	...	...	185
	(xiii) Argentine	...	...	185
	(xiv) Other countries	...	...	185
2.	Qualitative analysis	...	...	186
	(a) General	...	...	186
	(b) Consumption by important manufacturing countries	...	...	186
	(i) United Kingdom	...	...	186
	(ii) United States of America	...	...	187
	(iii) Germany	...	...	187
	(iv) Italy	...	...	188
	(v) France	...	...	188
	(vi) Belgium	...	...	188
	(vii) Brazil	...	...	188
	(viii) Japan	...	...	189
	(ix) Argentine	...	...	189
	(x) Australia	...	...	189
	(c) Changes in quality demand	...	...	189
Chapter VII—Wholesale Prices	...	...	...	182-232
A.	GENERAL	...	...	192
B.	COURSE OF PRICES (1930-31 TO 1939-40)	...	...	193
C.	REVIEW OF PRICES (JULY 1939 TO DECEMBER 1940)	...	...	208
D.	FACTORS AFFECTING PRICES	...	...	215
E.	SEASONAL VARIATION	...	...	225
F.	FUTURES PRICES	...	...	226
Chapter VIII—Summary	...	...	...	233-268
Appendices	...	...	...	267-300
A.	COMPLETE LIST OF JUTE MILLS IN INDIA	...	...	267
B.	WORKING HOUR AGREEMENT OF JUTE MILLS IN INDIA	...	...	270
C.	MEMORANDUM No. 8775-Com. DATED 12TH AUGUST 1935, FROM GOVERNMENT OF BENGAL TO THE INDIAN JUTE MILLS ASSOCIATION	...	...	275
D.	DIFFERENT SIZES AND WEIGHTS OF HESSIANS	...	...	279
E.	DIFFERENT SIZES OF GUNNY BAGS	...	...	280
F.	STANDARD U. K. JUTE GOODS CONTRACT FORM	...	...	282
G.	CONSULAR CHARGES FOR EXPORTING JUTE GOODS	...	...	283
H.	JUTE GOODS CONSUMED IN INDIA, THEIR USES, AND CENTRES OF DISTRIBUTION	...	...	287
I.	JUTE SUBSTITUTES AND COMPETITORS	...	...	288
J.	HOME GUARANTEE FORM	...	...	296
K.	FIXATION OF MINIMUM PRICES (JUTE AND FABRICS)	...	...	299
L.	DELHI CONFERENCE ON JUTE PROBLEMS	...	...	300

CHAPTER I

THE JUTE MANUFACTURING INDUSTRY

A. THE HAND-LOOM INDUSTRY

I. ORIGIN OF THE INDUSTRY.

Many years before the beginning of the Christian era it was recorded in 'Manu', an ancient Sanskrit socio-religious code, that a peculiar kind of fine cloth made of bark and named *patta* was used by the people of India.¹ In current Bengali, the word *pat* is used to describe both jute fibre and the plant from which it is produced. This, then, would appear to be one of the earliest references to the production of cloth made from the fibre of a plant which now provides the raw material for one of the most important textile industries in the world. There is little to show that the cultivation of jute was developed to any extent until late in the eighteenth century and, as with many industries and trades, now important in the economy of India, it was largely due to the trading enterprise of the Honourable East India Company that its possibilities both as fibre and cloth were made known to the world. It was in the first half of the nineteenth century that the industry began to flourish, and by the end of the decade 1850-60 the sale of hand woven goods provided one of the principal sources of income for the bulk of the population of Bengal. With the introduction of power driven machinery for jute, however, the position of the hand-loom industry was seriously threatened and, before long, in the face of the ever increasing competition from the mills in Dundee and, later, in Calcutta, it gradually declined. But even with the rapid expansion of power operated mills, capable of turning out jute fabrics and bags at high speed, there was still a moderate demand for the better types of hand made articles, which at that time were superior in quality and more durable than their machine-made counterparts. In 1880, twenty-five years after the first mill had been established in India, the finer products of the hand-loom industry in jute accounted for Rs. 2,69,553 out of the total value of manufactured jute exports amounting to Rs. 1,13,06,716. But at present it is practised mainly as a spare time occupation in a few districts of Bengal. A short review of this once important industry is given in the pages following.

1. *Report on the Cultivation of, and Trade in, Jute in Bengal*, by H. C. Kerr, 1874.

2. ITS RISE TO PROMINENCE.

2. From all available records it would appear that the possibilities of jute fibre as an item of export were not realized until late in the eighteenth century. Though jute ropes and cloth were undoubtedly used in considerable quantities in the country, it was not until they became known overseas that any serious effort was made to develop and expand their manufacture. Gradually, the cultivation of jute spread over the greater part of Bengal, and with it the villagers took up hand spinning and weaving. As the years passed, the demand for manufactured jute goods increased to a large extent. Much of the popularity which jute fabrics gained all over the world was attributable to Dundee manufacturers who from 1832 onwards not only solved the problems of spinning and weaving jute mechanically but also sought and found new markets for jute manufactures. An idea of the increase in demand may be obtained from the fact that 1,013,277 pieces of gunnies and gunny bags were exported in 1828-29, while in the following year the figure rose to 9,006,415.¹ And, in 1850-51, the total exports amounted to 9,035,713 pieces of gunny and cloth, valued at Rs. 21,59,782.² But, as already stated, the hand-loom industry declined during the second half of the century. After 1885, hand-made goods rarely figured in the export lists and eventually ceased altogether. For the last thirty or forty years, such articles have been produced either for domestic purposes or for village requirements.

3. TYPES OF GOODS PRODUCED.

3. In the early days, the manufacture of jute goods took three forms. These were:—

- (a) cordage,
- (b) gunny cloth and bags, and
- (c) paper.

(a) *Cordage*—The range of cordage produced was great, including fine spun yarn suitable for weaving fine cloth, intermediate weights of yarn and twists of various degrees of strength and thickness for domestic and agricultural purposes, and thick ropes or hawsers for ships, or for heavy haulage.

4. (b) *Gunny cloth and bags*—There were three distinct varieties of jute fabric manufactured by manual methods, namely,

- (i) *Gun, Tat or Chat*—a thick and closely woven cloth, in fact a coarse type of canvas. This was prepared in three

1. cf. *Productive Resources of India*, by Dr. Forbes Royle, 1840.

2. cf. *Fibrous Plants of India*, by Dr. Forbes Royle, 1855.

qualities. One of these was sufficiently closely woven for packing fine small grains, sugar, rape, linseed and poppy seeds. The second was suitable for carrying rice, vetches and the larger types of seeds, and the third was not so well or closely woven and was used for rice and other large grains, and for the outer covering when sugar was packed in double bags.

- (ii) *Mekli or Dokhra*—a cloth which could perhaps be said to correspond to good class hessian. It was then a finely woven fabric manufactured in Maldah, Dinajpur and Rangpur only and used by the poorer classes as wearing apparel or for sleeping mats. A variety of *mekli* produced in Cooch Behar contained a mixture of cotton and jute yarn. This was usually dyed blue or red for use as garments.
- (iii) *Gun-Chat or Kacha-Chat*—a coarse loosely woven fabric employed in a large variety of ways, such as, sails for boats, packing bulky articles, outer covering for articles packed in fine gunny, carriers for betel-nuts and large seeds etc.¹

5. The following statement gives a description of the products made by hand in the districts of Bengal during the period 1830 to 1860.

Districts	Fibres used in manufactures	Description of manufactures	How disposed of
Burdwan	Both good and inferior jute.	Gunny cloth and bags, twine and ropes.	Sold for local use and exported to Calcutta.
Beerbhoom	Desi, Doolagunge and Naraingunge jute.	Gunny bags only.	Exported.
Midnapore	Koshta, Naskarkani, Kangra jute etc.	Gunny, ropes, strong cord.	Gunny bags chiefly exported.
Hooghly	Desi jute.	Ropes, gunny cloth and gunny bags.	Exported.
24-Parganas	Jute.	Gunny and Twine.	Exported.
Jessore	ditto	Gunny for bags and sails, twine and ropes.	Sold at hats, and exported to Backergunge.

1. cf. Kerr, *op. cit.*,

Districts	Fibres used in manufactures	Description of manufactures	How disposed of
Rungpore	Jute.	Paper, gunny bags, and <i>tats</i> .	Exported and locally used.
Maldah	ditto	Gunny cloth, paper and thread	Sold at <i>hats</i> and locally used.
Pabna	Baboon, Hemental, Shoynee, Mesta and Desi.	Gunny cloth and Chats.	Exported and locally used.
Dinajpore	Jute.	Gunny and twine.	Exported and locally used.
Cooch Behar	C. Capsularis	Coarse and fine gunny cloth and mekli cloth.	—
Darjeeling	Red, white and marah, Emleah and Chera-mara.	Gunny cloth, fishing nets and rope.	Locally used and surplus sold at <i>hats</i> .
Jalpaiguri	Jute	Gunny bags.	One fourth locally used and three fourths exported.
Dacca	Mesta and Koshta for paper, inferior jute for other purposes.	Rope, bags, paper, sails twine and gunny sheets.	One fourth locally used, three fourths exported.
Mymensingh	Greater portion of inferior jute.	Gunny bags and paper.	Locally used.
Backergunge	ditto	ditto	Locally used and exported.
Faridpur	Desi, Bogi, Belun, Mesta.	Gunny sail, twine and cord.	—
Chittagong	Jute.	Rope and gunny.	Locally used.
Tipperah	ditto	Gunny bags.	Locally used and exported.
Noakhally	Inferior jute, but mesta for paper.	Gunny ropes and paper.	Locally used.

Source:—*Report on the Cultivation of, and Trade in, Jute in Bengal*, by H. C. Kerr, 1874.

6. (c) *Paper making*—The use of jute for making paper dates back to ancient times. It was a well established industry in many districts of Bengal long before the manufacture of cloth became an item of economic importance. According to Dr. Carey, in an article published in the “Transactions of the Agri-Horticultural Society” sometime about 1830, the quantities of paper made were so large that after supplying local needs they left an ample margin for exporting to the upper Provinces of India and to the countries of the East. In addition to fibre, old and torn gunny bags and cloth were used to manufacture paper. These were reduced to pulp by immersion in tubs or vats of water, to which was added lime, mixed with a quantity of fresh hemp, old paper and *sajee matee* (alkaline soil). After conditioning, the pulp was drawn from the large vats by means of a square frame over which an extremely fine sieve of split bamboo woven with horse’s hair was placed. When the pulp settled equally over the sieve, it was slowly raised and when sufficiently strong, was laid in the form of a sheet on a board to undergo the finishing processes. This consisted of beating the surface with a mallet to make the paper soft and smooth, followed by sizing with a mixture prepared from fine wheat or rice. After drying, a polish was imparted by rubbing with stone balls and it was then cut in sizes required.¹

7. The export trade in paper flourished during the first half of the nineteenth century, but with the steadily increasing imports of cheap and better class European paper it decline rapidly. Later, when mills were opened, using machinery imported from abroad, the local trade was killed entirely within the space of a few years. At present, the paper manufacturers consider jute to be too expensive and uneconomical. The yield of pulp from the pith or roots is far below that of bamboo which is now the basic material for all paper making in India. Also, bamboo costs much less than the lowest grade of jute or cuttings.

4. PRESENT POSITION.

8. (a) *Location of the industry*—Traces of the cottage industry in jute which once thrived in Bengal are still to be found in some places. It, however, exists now mostly in the form of string and rope making. Weaving on hand-looms is confined to a few districts only, among which Dacca and Bakarganj in East Bengal, and Dinajpur, Rangpur, Jalpaiguri and Bogra in North Bengal, are important.

1. cf. Kerr, *op. cit.*,

- (i) *East Bengal*—In Dacca, the industry is restricted to a few villages in the Narainganj and Munshiganj sub-divisions, while, in Bakarganj, it is concentrated in Gournadi Thana area. In these districts, hand spinning and weaving is undertaken as a spare time vocation by the *Kapalis*, a Hindu sect.
- (ii) *North Bengal*—Dinajpur in North Bengal is the principal centre of the jute cottage industry in the province. The making of good quality fabrics, which find ready markets in the cotton growing provinces, is an important part-time occupation of women of the Pulia tribe which is settled in Thakurgaon sub-division of that district. In Rangpur, the industry though of some importance is confined to villages in Nilphamari and Domar Thanas ; while Debiganj and Boda areas deserve mention in the district of Jalpaiguri. The industry in Bogra is of recent origin and is confined to three institutions, affiliated to the All-India Spinners' Association, one each at Sukhanpukhar, Adamdighi and Balia.
- (iii) *South and West Bengal*—The people in South and West Bengal make articles for domestic use only, viz. yarns, ropes and in very few cases coarse heavy cloth. The cottage industry in these areas is not organized as in other parts of Bengal.

9. (b) *Methods employed to spin and weave yarn*—Mechanical developments during the last century have in no way affected the technical processes. Primitive methods are still employed, while the wooden spinning cone and weaving frame are apparently the same.

- (i) *The Spinning process*—One noteworthy feature is the complete absence of any attempt to condition the fibre before spinning, and even the application of water is restricted to moistening the root ends which are later beaten with a mallet in order to remove the bark. In spite of this, workers are capable of producing a yarn, when required, of such fineness as can seldom be made on power spinning frames in India. The most common method of spinning is by means of the *takku* which is a conical piece of wood, from 12" to 15" long, about 1½" in diameter at the base and tapering to ½" at the top. Hand spinning wheels do not find favour because of their high cost to purchase. In processing, the spinner attaches a bundle of fibre, usually about one seer, to a post, squats on the floor and pulls out several strands into a thin tissue

or ribbon somewhat similar to rove but without any twist. The uniformity and thickness of the yarn required is determined by pulling and grouping consecutively identical numbers of fibre strands. Spinning proper is done by attaching one end of the ribbon to the spindle of the *takku* and by stroking it against the thigh or calf, causing it to rotate and thereby imparting a twist to the fibre. Ordinarily from 15" to 18" of yarn is spun in one operation, the degree of twist depending on the distance the *takku* is made to traverse in spinning the yarn round it. This is the most common method, but in some areas, e.g. Bogra, ribboning and spinning are done in one operation. The above practice is also employed for twisting, the single yarn which is treated in the same manner as the untwisted ribbon.

eaving—The type of weaving, which is most common, is done on a contraption which can hardly be called a loom in the modern sense of the word. This apparatus consists of five wooden spars or bamboos of varying thicknesses about 36" to 40" in length. Two form the ends, one being suspended by means of cord from an upright post and the other secured to two posts sunk in the ground, the distance between the two ends being 4 to 4½ feet, both being joined together by twisted yarn. The three remaining sticks are placed in the centre a little apart from each other. The warp yarn is made into a ball and it is significant that no dressing or stiffening of any kind is used. Warping is done by using the two centre strips as lease rods which also act as cams as they provide the necessary shedding motion during weaving. The third stick is used to beat up the weft. Weft is arranged on a split bamboo about 18" to 22" long and 1½" broad which takes the place of a power loom shuttle. Working this primitive contraption is both slow and tedious, but the goods supplied from it are generally well woven with both warp and weft very evenly spaced and generally free from many of the blemishes such as sticks, gaws and snarls which are fairly common in machine made cloth. The three institutions in Bogra district employ modern hand-looms which are beyond the means of an average villager because of their high costs. These modern hand-looms are fitted with fly shuttles and permit of twill, herringbone and check weaves.

10. (c) *Wages earned*—It has already been said that spinning and weaving form a part-time occupation of the villagers, and therefore, little can be said about the time taken for each process. It was, however, reported in Dinajpur that one person could spin yarn for and weave a piece of cloth measuring about 15 ft. long by 28 in. wide and weighing about $3\frac{1}{2}$ seers in ten hours. The type of fabric which is made in that district is generally sold at about rupees two per maund over the price of jute. Thus, on that basis the daily earnings would amount to Re. 0-2-9. In Bogra district the industry owes its origin to the enterprise of some public spirited gentlemen who have, as a preliminary step, encouraged the spinning of jute by hand in the villages adjacent to the institutions. Those willing to supply hand spun yarn to the institution have their names registered and either procure fibre themselves or, as is generally the case, are supplied with it by the institutions, whose employees go about the villages at regular intervals supplying jute and collecting yarn. The wages for spinning are two annas eight pies per seer for single yarn while an extra eight pies per seer is paid for making 2 ply yarn.¹ It takes an average worker about 10 hours to spin 1 seer of fibre into yarn of medium count say 14 to 16 lb. per spindle, thus the average daily wage amounts to Re. 0-2-8. Making ply yarn takes comparatively less time, *i.e.*, $2\frac{1}{4}$ seers in ten hours, and the wages earned are about one and a half anna per day. It will be noticed that wages both in Dinajpur and Bogra are low and it is probable that by employing spinning wheels spinners would be able to increase production and consequently receive better wages but, as stated, the cost of these machines was reported to be beyond the means of an average villager. The weavers in the Bogra institutions are all local men, who work under the piece wage system and earn on an average about Rs. 10/- per month working 8 to 9 hours per day.

11. (d) *Types of fabrics produced*—The type of material most commonly made in Dinajpur and the adjacent districts of Jalpaiguri and Rangpur is a double warp and weft fabric locally called *desi patia*, the trade name being 'Bengal *bardana*' or hessian strips. There is a good demand for these from the cotton growing provinces of Bombay, Central Provinces and Berar and Hyderabad (Deccan) where they are pieced together in the shape of large bags and used for packing raw cotton. Sizes vary from 45" to 63" in length and 28" to 32" in width and from $\frac{7}{8}$ to $1\frac{3}{8}$ seers in weight. It is reported that about twenty years ago there was a large trade in this type of fabric and as

1. The unit of weight in the district is 60 tolas per seer, and the wages are two annas per seer for spinning, six pies for 2 ply yarn.

much as two and a half million strips weighing about fifty thousand maunds were despatched from Dinajpur annually. In recent years, however, the demand has fallen off owing to cheaper machine made cotton packs coming on to the market. Nevertheless, the trade in hand woven hessian strips is still considerable and the average yearly exports amount to about eight hundred thousand to one million strips weighing about twenty thousand maunds. According to merchants engaged in this trade 50 per cent. of the goods are taken up by the Bombay Presidency and the balance is divided fairly equally between the Central Provinces and Hyderabad. Other classes mainly meant for local consumption are long narrow strips 28" wide which pieced together, serve either as wrappers or bedding. Yet another type is netting with 2" x 2" meshes made from thick yarn about $\frac{3}{8}$ " in diameter. It is usually 45" long, about 28" to 30" wide and is used for packing tobacco leaves.

12. The type of goods made in the Bogra institutions are entirely different from those described above and include such articles as hessian cloth, *satranji asni*, stair runners, *newar* (webbing) and various types of bags. These are generally made in attractive colours, the yarn being dyed in the shed of the institutions. The following table lists the more popular articles together with their sizes and other details. The total weight of goods produced in Bogra amounts to about one thousand eight hundred maunds per year. It will thus be seen that in spite of the great variety of goods made there, the industry in Dinajpur alone is of any real importance.

13. (e) *Methods of marketing.*

(i) *Hessian strips*—As the picking of cotton starts in June the merchants in Dinajpur and Domar (Rangpur) receive enquiries from the consuming centres from the end of June onwards. The prices quoted are for bundles of 50 strips of a particular size, the weight of each bundle varying from 1 to 1 $\frac{1}{2}$ maunds. Merchants engaged in this trade maintain agencies at Ruhea, Setabganj and Sibganj in Dinajpur and at Domar in Rangpur and make purchases through *paikars* and *beparis*. At the commencement of the jute season, they let it be known in the villages generally by beat of drum that it is their intention to buy *desj patias* or hessian strips, the imports of which start from late in August and continue till the end of February. It is significant that though the fabrics are ultimately sold by weight, these change hands in *hats* on the basis of a certain number of strips per rupee.

TABLE I
Description of goods manufactured from jute

Name of goods	Measurement	Weight of each article
Light Durrie (<i>Satranji</i>)	6½ × 4½ feet	3½ srs.
-do-	6½ × 3½ ..	2½ srs.
-do-	6½ × 3½ ..	2½ srs.
Train sheet	76½ × 27 inches	1½ srs.
Prayer mat	45 × 27 ..	1 sr.
Easy chair canvas	54 × 20 ..	1 sr.
Seat mat (<i>Ashani</i>)	27 × 24 ..	½ sr.
-do-	24 × 21 ..	7 ch.
-do-	22 × 19 ..	6 ch.
Market Bag	15 × 15 ..	7 ch.
Cycle Bag	—	½ sr.
School Bag	—	7 ch.
Badminton Net	—	7 ch.

Source :—Noadabaga Pallisilpa Pratisthan, P.O. Sukhanpur, Bogra.

(ii) *Bogra Goods*—Goods made in Bogra, especially hessians, are generally sold to the All-India Spinners' Association, the exception being a small quantity of *asnis* and the various types of bags which are sold locally.

14. (f) *Consumption of jute by the industry*—Taking the production of all areas into consideration it would appear that the total consumption of raw fibre does not exceed fifty thousand maunds a year—roughly one-hundredth of the total crop. The possibility of increasing consumption by developing these industries receives considerable attention from the Provincial Governments of Bengal, Bihar and Assam, and all have active weaving instruction departments working under the control of their Industries Departments. It is very doubtful however, if the jute hand-loom industry will ever be more than a purely spare-time vocation for a fraction of the population.

B. THE ORIGIN AND DEVELOPMENT OF THE POWER LOOM INDUSTRY

15. *General*—When Bengal was building up a trade in its indigenous jute products, the spinning values of the raw fibre were being explored and developed in countries overseas. The successful spinning of the ligneous jute fibre on machines in Dundee in the year 1832, heralded a new era in the history of jute manufacture. For many years afterwards, Dundee enjoyed a virtual monopoly of this manufacture, and built up a lucrative export trade in jute goods. Other countries began to show interest about twenty years after the Scottish town's initial success; mills were first erected in the United States in 1848, in France in 1855 and later, in Germany and other European countries. India entered the field in 1855 and within a relatively short time outstripped all other centres, including Dundee, in productive capacity. The following brief account of the origin and development of the mill industry in different countries may be of general interest.

I. UNITED KINGDOM.

16. The first exports of raw fibre were made in 1793 when Dr. Roxburgh, Curator of the Honourable East India Company's Botanical Garden at Sibpur, Calcutta, sent 100 tons of jute under the name of *pat* to England. The report of the Committee of Warehouses of the East India Company, London, dated 9th October 1793, throws an interesting light on the reactions of merchants in England to the introduction of this new fibre. It was as follows:

"Of *pat* your Committee are happy to be enabled to speak favourably. Some of the most eminent dealers declare that it is not hemp but a species of flax superior in quality to any known in the trade, one thousand tons of which would go off annually at from £40 to £60 per ton".

This encouraging report resulted in a small but irregular trade in raw fibre coming into being and, at intermittent intervals until about the year 1830 small consignments were exported from Calcutta to Abingdon in England where it was used in making heavy carpet backing, also in union yarns composed partly of flax and jute tow. The fibre was converted to yarn by manual methods but experiments to spin it on mechanical frames met with little success. Its ligneous character was the principal difficulty and, in an attempt to find means to overcome this, a consignment was sent to Dundee, Scotland, where the spinning and weaving of flax was the principal textile industry. It was not until about 1833 that any

substantial success was achieved in the mechanical production of yarn but the possibilities of this 'new' fibre were apparently not appreciated by the Dundee manufacturers for a year or two. Users of cotton and linen bags did not evince great interest in the coarse jute sacking at this time. However, in 1838 the Dutch Government placed orders with Dundee manufacturers for bags made entirely of jute for use in their East Indian possessions, and this served to bring to the fore the possibilities of jute fabrics as containers for general produce. Advancement was steady after that and is best indicated in the jute export statistics of the period. In 1833 three hundred tons of raw fibre were shipped from India to the United Kingdom and during the next seventeen years this figure rose by over ninety times to 28,000 tons (in 1850). The variety of jute products also increased and achieved such good reputation that in a relatively short time they largely displaced cotton, linen and other fabrics in several directions. The linen trade in Dundee began to decline from about 1870 largely because of the displacement of sail by steam at sea, and generally the manufacture of jute fabrics assumed greater importance until by the end of the century it became the city's principal industry. The position to-day is, that flax is still spun and linen made in a few small mills in and around Dundee, but it is the jute trade which is the mainstay of the town's prosperity. In all, there are some 8,500 looms in Dundee and its environs and about one-fifth of the population is dependant upon the jute trade for its livelihood. Though Calcutta has long since outstripped it in loomage, Dundee will always be considered the cradle of the jute trade, and from its mills and factories Scottish workmen have travelled the world over to erect mills and to supervise the manufacture of jute fabrics.

2. INDIA.

17. The development of the industry in India is a record of steady achievement, dating from 1855 when a mechanically driven jute spinning mill, with machinery imported from Scotland, was erected on the banks of the river Hooghly at Rishra, thirteen miles from Calcutta. This was the first step in the establishment of an industry which in eighty-five years has become one of the most important factors in the economic life of the country. The earliest records show that the first power operated looms were introduced in 1859 and that the total number of these was 192. The latest (1940) estimate of looms in India places the total at 68,416 (excluding special looms). This subject is, however, dealt with more fully later in the report.¹

1. See Section C. *infra*.

3. UNITED STATES OF AMERICA.

18. Jute products were manufactured in America as early as 1848 at a small mill at Ludlow, Massachusetts, where linen machinery had been adapted to produce jute goods. At first, jute yarn imported from Dundee was used, but by 1850 spinning machinery was installed and raw fibre was shipped direct from India. In the next twenty years little advance was made, but after the Civil War, 1861-65, several jute bagging mills were set up in the cotton growing states of South Carolina, Georgia and Virginia where there was a ready demand for coarse bagging for carrying cotton from the fields to the gins and presses. In other States, also on the Atlantic sea-board, jute manufacture was started, but it was mainly devoted to the production of carpet yarns and cordage of all descriptions. In 1919, there were twenty-six firms in the jute manufacturing trade but, through the amalgamation of several interests and for other business reasons, this number has fallen in the last twenty years to twenty firms, with a total labour force of about ten thousand. Later estimates place the total loomage at 2,750.¹

4. FRANCE.

19. The success achieved in jute spinning and weaving in Dundee attracted the attention of Continental manufacturers. France was early in the field and it is recorded that the first mill was established at Dunkirk in 1857. Later, factories were set up in other sections of Northern France where labour, trained in linen hand weaving, was available. To effect a saving in the cost of freight on the raw fibre, a few mills were established late in the nineteenth century in the neighbourhood of Marseilles. In 1909 the total number of looms in France was 5,800, and according to later estimates this has increased to about 7,000.¹

5. GERMANY.

20. The first jute spinning mills were erected in Vichelde, Germany, in 1861, but it was not until 1870 that power driven looms were introduced. By 1879, the industry was firmly established, there being a number of mills in the district of Braunschweig. During the next twenty years, the trade developed rapidly and in 1901 a mills association—'The United German Jute Industrialists'—with a membership of twenty-four mills and controlling 6,759 looms, was formed. The Great War of 1914-18 and the years of economic and industrial

1. See *Report of the Bengal Jute Enquiry Committee*, 1939, Vol. I, p. 10.

difficulties afterwards caused a setback in the development of the industry, but by 1926 trade conditions settled down and, with the improvement of business further expansion took place, the loom strength being 8,698 in 1928 and, according to later estimates, about 9,600.¹

6. BELGIUM.

21. In Belgium the jute manufacturing industry came into existence about the year 1865. Spinning of jute was first introduced in the areas where flax carding, spinning and weaving were the principal vocations of the workers. Development was, however, slow, and by the end of the century the number of jute looms in the country was less than one thousand. By 1913 this had increased to 1,200, and by 1930 advanced further to 2,000. Subsequently, there was great increase in the country's production, the total loomage according to later estimates being 3,000.¹

7. AUSTRIA.

22. The first jute mill was built in this country in 1870, but it had little success and had a hard struggle until 1882, when the lifting of heavy taxation on fibre and fabrics brought it relief and a small measure of prosperity. This attracted other merchants to the trade, and thereafter it developed with fair steadiness at the expenses of flax and hemp. There were about twelve hundred looms employed in the manufacture of jute in 1899 when the different interests formed themselves into an association named 'The Union of Austrian Jute Industrialists'. This marked a step forward in the industry, and during the next ten years there was considerable expansion, the loom strength in 1910 being 2,700 in Austria and 1,000 in Hungary. The collapse after the Great War saw also the decline of the jute trade in these circumstances, industry was practically at a standstill for a number of years and even in 1930 only one or two jute mills were reported to be working with approximately seven hundred looms. The position did not improve to any great extent during the following years, and later reports place the Austrian loomage at only 1,100.¹

8. RUSSIA.

23. Russia first came into the market as a buyer of jute for manufacture as long ago as 1885. One factory was then in operation but the size is not recorded. By 1909, however, there were sixteen jute

1. *Bengal Jute Enquiry Committee Report, 1939.*

mills with about three thousand looms. But after the Great War, and the political and economic upheaval from 1914 to 1918, the jute manufacturing industry, along with many others, practically ceased to exist. Later, it recovered, though slowly, and by 1930 about 1,000 looms were in operation once more. The position is reported to be unchanged since then.¹

9. ITALY

24. The manufacture of jute was first introduced into Italy about 1885 and from the start proved to be a successful business venture. The trade expanded steadily and by 1906 there were over, 2,000 looms working, which increased to 3,100 in 1910. Post-war development brought the total in 1930 to 4,500 and later information puts the figure at 5,000.¹

10. POLAND.

25. Poland first took up the production of jute fabrics early in the twentieth century. In 1914, about 1,040 looms were working, but with the upheaval consequent upon the war of 1914-18 the trade fell off considerably. It revived again about 1929, and during the next few years the industry gained strength. Later, the loomage increased to about 1,600.¹

11. CZECHOSLOVAKIA.

26. The manufacture of jute in Czechoslovakia is of comparatively recent origin. Little information is obtainable about the early mills erected, but in 1930 there were ten jute mills with 1,900 looms. The position did not materially change in the succeeding years, the loomage being reported as 2,000.¹

12. SOUTH AMERICA.

27. Jute was first introduced into South America in 1885, when a Scottish firm opened a small factory at Buenos Aires, Argentina, to make jute soled shoes. It was not until early in the twentieth century that the production of jute fabrics was undertaken. The first mills were erected at Rio de Janeiro, Brazil, where the manufacture of coffee bags was commenced. Within comparatively recent times the industry has expanded considerably, Brazil coming first with about 4,500 looms. Argentina and Uruguay, which are large exporters of meat, have in the last few years set up a number of factories to make light hessian cloth as meat wrappers, buying yarn of suitable weight from Dundee

1. *Bengal Jute Enquiry Committee Report, 1939.*

for this purpose. In all, it is estimated that about 800 to 900 looms are thus engaged. Chile and Ecuador are considered to have about 500 to 600 looms employed in making bags for internal use. The total number of looms in South America may be estimated at 6,000.¹

13. FAR EAST.

28. Information is not readily available regarding the origin of the jute manufacturing trade in Japan. The industry has been in existence from before the Great War and during the last ten years has been expanding. There are at present 9 jute mills in Japan, Formosa and Manchukoa and it is estimated that their total loomage is about 1,500. In Shanghai, there are two small jute mills, one under Japanese control, the other under British. It is estimated that there are about 400 looms in these mills.¹

14. SPAIN.

29. The jute industry in Spain is located mainly in the north. It is a fairly important item in the economy of the country, and in 1925 there were reported to be 20 mills with a total of about 1,500 spindles and factories equipped with 687 looms. The loomage was estimated at 800,² but no information is available regarding the present state of affairs. Bags and cloth are made for internal consumption but the bulk of fibre taken is used in the manufacture of jute soled shoes for wear by the peasants.

15. CANADA, AUSTRALIA & SOUTH AFRICA.

30. The manufacture of jute has not at any time been developed on a wide scale in the British Dominions. Canada has a number of bag-making factories but only about two hundred jute looms. In Australia, there are a few twist spinning mills employed in the manufacture of cordage, also several factories which produce bags out of cloth brought from mills in India. South Africa has no jute manufacturing plant.¹

16. NORWAY AND SWEDEN.

31. The former has one small jute factory and the latter has three. The total loomage was estimated to be about 400 in 1930, but it was considered by shippers that there must have been expansion as in recent years these Scandinavian countries have increased their purchase from about 30,000 bales in 1930 to 50,000 in 1939.

1. Trade sources in Calcutta.

2. *Bengal Jute Enquiry Committee Report, 1939.*

17. OTHER COUNTRIES.

32. Little information is available as regards the manufacture of jute in other small European countries, but enquiries from the trade circle in Calcutta revealed that it was undertaken in practically all of them, the estimated loom strength being as follows:¹

Yugoslavia	...	...	400 looms
Esthonia	...	...	230 "
Bulgaria	...	...	100 "
Finland	...	...	75 "

18. ESTIMATED TOTAL NUMBER OF JUTE LOOMS IN ALL COUNTRIES.

33. The table below gives the estimated total number of looms used for jute manufacture in various countries of the world.

TABLE II

Name of country	No of looms	Percentage of world's total	
India	68,416*	57.0	
Germany	9,600	8.0	
Great Britain	8,500	7.1	
France	7,000	5.8	
South America	6,000	5.0	
Italy	5,000	4.1	
Belgium	3,000	2.5	
North America	2,750	2.3	
Czechoslovakia	2,000	1.7	
Poland	1,600	1.3	
Japan	1,500	1.2	
Austria	1,100	1.0	
Russia	1,000	0.8	
Spain	800	0.6	
China	400	}	
Yugoslavia	400		
Sweden	300		
Esthonia	230		
Canada & Australia	200		
Norway	100		
Bulgaria	100		
Finland	75		
Total:	120,071		100

*Excluding special looms.

1. *Bengal Jute Enquiry Committee Report, 1939.*

C. JUTE MILL INDUSTRY IN INDIA

I. REVIEW OF PROGRESS FROM 1855 TO 1940.

34. The first power driven jute looms in India were installed by the Borneo Company (later re-named the Baranagore Company) in 1859. This was the second jute mill to be erected and its machinery was the latest and best obtainable from Dundee. The factory had a complement of 192 power and 200 hand-loom but, in the course of a few years the latter were replaced by the more efficient and faster working mechanically driven looms. From this modest beginning steady progress was made and with the increasing efficiency of the workers and the opening of new world markets the jute manufacturing trade was soon established as one of India's most important industries. During the period 1860 to 1873, five companies were operating with a total loomage of 1,250. By 1885, the number increased to eleven companies controlling 6,700 looms; and, in another ten years, three thousand more looms were added. The most spectacular advance, however, was made during the following fifteen years when the expansion of overseas trade and the demand for jute goods encouraged the establishment of many new mills. In 1909, the Jubilee year of power loom production in India, no fewer than 38 mills were working with a total of 30,685 looms. Only three new concerns were floated during the four years prior to the Great War, and these added a further 1,500 looms to the total. Extensions to existing mills, however, increased loom strength by over six thousand, and at the end of 1914 the total reached 38,554 of which 22,603 were devoted to the manufacture of hessian cloth only.

35. Six new concerns came into being during the war years, 1914 to 1918, adding some 2,000 looms to the total. Afterwards there was rapid expansion, and by 1927 the loom strength reached 50,354. During the long period of trade depression which lasted from 1930 to 1935, measures were adopted by the Indian Jute Mills Association to regulate production in conformity with diminished demand, in order to protect the industry from the effects of over-production. It was during this period, however, that seven new mills were established by Indian businessmen, thus increasing the total loomage by over four thousand. Again, in 1937 and 1938, a few old established mills in Calcutta also increased their loomage. The net effect was a large increase in the pre-depression loom strength of jute mills in India. Until 1919, all mills, with the exception of the ill-fated Serajganj Jute Mill which was destroyed by earthquake in 1897, had been located at short distances from Calcutta. Afterwards, however, a mill was erected in Madras Presidency, to be followed in later years by three others. Bihar was

next to come into the field with four mills erected between 1925 and 1935. Further, three mills were established in the United Provinces between 1931 and 1935, and one in the Central Provinces in 1935. The mills outside Bengal form a small part of the jute industry in this country, their total looms numbering 3,189 only. The present distribution of the jute loomage in India is as follows:—

TABLE III

Provinces	Mills	Looms*
Bengal (Calcutta)	101	65,227
Bihar	4	1,144
Madras	4	1,025
United Provinces	3	870
Central Provinces	1	150
Total	113	68,416

*Excluding special looms.

2. LOCATION OF MILLS.

36. The choice of Rishra (near Serampore) for the location of the first power driven jute spinning mill was largely dictated by the fact that Serampore was a noted centre for hand spun jute and hemp. Supplies of raw material were assured from the adjacent jute growing areas in Hooghly district and labourers possessing knowledge of hand spinning and weaving were available in good numbers. Facilities also existed for exporting the fabrics as, in 1855, it was still possible for sea going vessels to sail up the Hooghly to points even beyond Serampore (situated on the north bank of the river, about fifteen miles above Calcutta). The second mill, the Borneo (later named Barnagore), was established in 1859, about seven miles above Calcutta on the south bank of the Hooghly, to be followed in 1862 by Gouripore, twenty-six miles up-stream on the same side. Since then, the number of mills and looms have increased steadily. At first, the mills were located at some distance from each other, as they were keen to acquire as much land surrounding their premises as possible, largely in order to prevent

possible new concerns from depriving them of their sources of supply of skilled labour. Shortly afterwards, however, the growing prosperity of the industry attracted labourers from the distant parts of Bengal and Bihar who soon learnt how to handle the machines and, within a few years a large force of trained operatives became available in and around Calcutta. The fear of labour shortage was thus removed and within a relatively short time, areas near Calcutta which for hundreds of years had been devoted entirely to agriculture or fishing, became, with the opening of mills, thriving industrial centres with steadily increasing populations. Notable amongst these centres of the industry are:—

- (i) Titagarh, with nine large mills, located on a frontage of about two miles, situated on the south bank of the Hooghly, about fourteen miles above Calcutta ;
- (ii) Jagatdal, with eight mills—five to six miles above Titagarh ;
- (iii) Budge-Budge, with six mills, fronting a stretch of three miles on the Hooghly, some twelve miles below and on the Calcutta side.
- (iv) Eight large mills are established within the municipalities of Howrah, Salkia and Sibpur (Howrah district) along the north bank of the river. And, twenty miles up-stream, there is the important Bhadreswar area (Hooghly district) in which six of the largest mills are located.

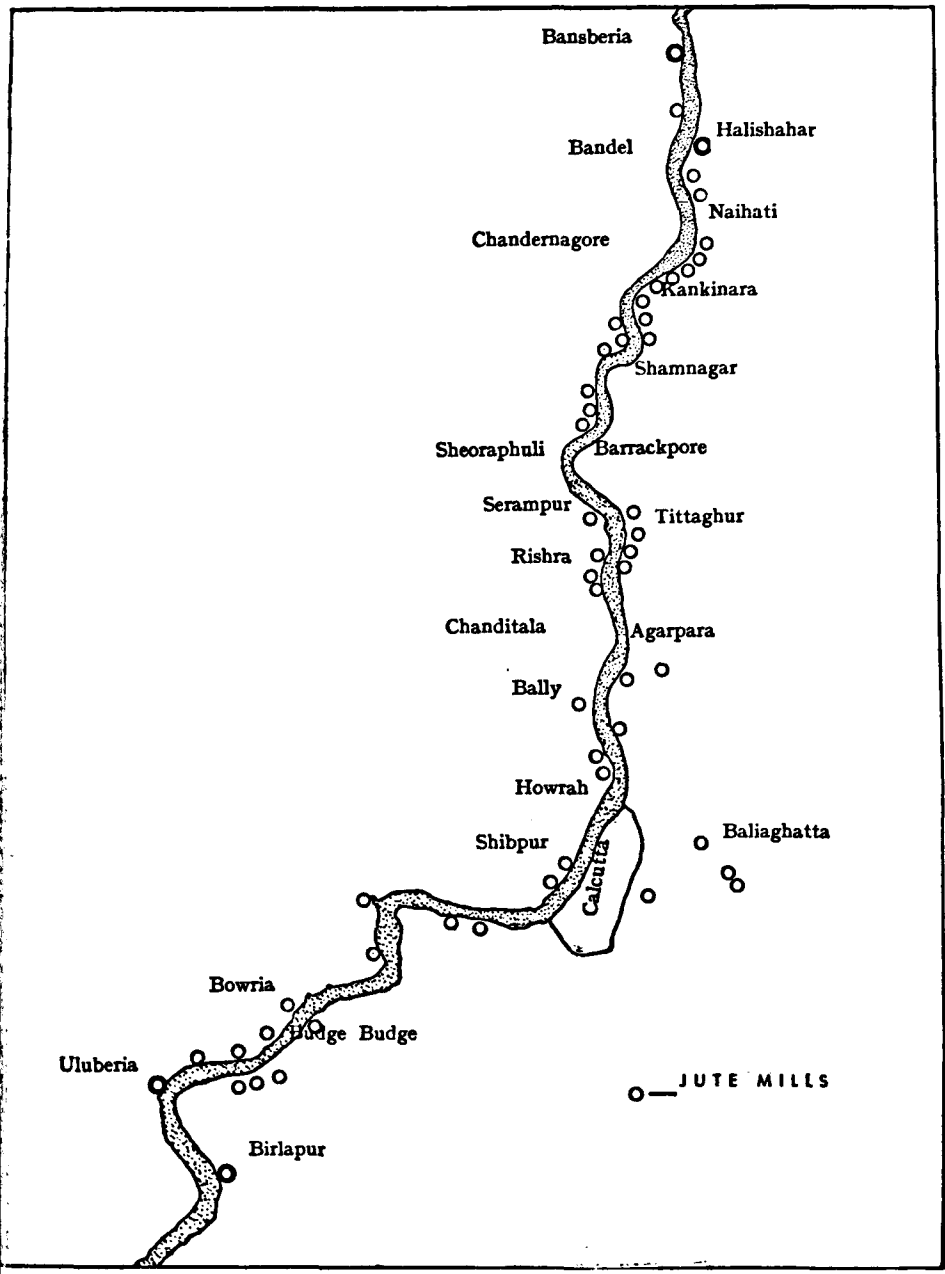
37. The Calcutta jute mills area, illustrated on the map, now extends from Bansberia Jute Mills, thirty-five miles above the city to Gagalbhai Mills, Uluberia, twenty miles below on the Howrah or north bank of the river, and from Hukumchand Mill at Halishahar twenty-eight miles above to Birla Mills at Birlapur twenty-two miles below Calcutta on the south bank. Within this area there are in all 101 jute mills, with 65,227 looms (excluding special looms).¹

3. NUMBER OF LOOMS—HESSIAN AND SACKING.

38. For the first fifteen years after the introduction of steam driven machinery the mills plant was devoted to the manufacture of sacking and bags and it was not until 1870 that the manufacture of hessian was started. The first power looms installed by the Borneo Company in 1859 were 152 of 34" reed space and 40 of 52" reed space, and the width of fabrics produced ranged from 26½" to 38" with limited variations in weight.²

1. A detailed list of mills and the number of looms in each is given at Appendix A.

2. *Romance of Jute*, by Wallace, D. R.



39. With the increase in the number of mills and therefore in output generally, the production of sacking goods soon exceeded the normal demand, and the attention of manufacturers turned to the finer jute fabric, hessian, which till then had been a Dundee monopoly. Fresh markets were sought, and soon mills in India, were competing with Dundee for hessian bag and cloth business in several important overseas markets. As the years passed, they firmly established themselves abroad for these products and the ever increasing demand for a greater variety of fabrics led to the gradual installation of looms capable of weaving cloth of widths greater than had hitherto been anticipated, the widest being three yards or 108 inches. From about 1895, the production of hessian cloth began to exceed that of sacking and by the end of the nineteenth century the number of hessian looms had increased substantially. In 1890, the proportion of hessian to sacking looms was approximately 24 per cent. or 1,958 to 6,006. In 1900, it was 43 per cent. with 6,609 hessian and 8,727 sacking looms. By the year 1910, the position had changed, for the number of hessian looms exceeded those of sacking by about five thousand. Actual figures were 18,334 and 13,421 respectively, *i.e.*, 57 and 43 per cent. The proportion of hessian looms over sacking increased to 60 per cent. in the period 1910-20, and by another one per cent. in the following decade. The latest figures indicate that in 1940 the aggregate loom strength of the mills in India was 68,416 of which 43,048 or just over 63 per cent. were for hessian production.

40. The table below illustrates the increase in loom strength during the last 55 years.

TABLE IV
Hessian & Sacking Looms (1885-1940).

Year	Hessian	Sacking	Total	Proportion of hessian looms to the total loomage
1885	1,800	4,900	6,700	27 per cent.
1890	1,958	6,006	7,964	24 " "
1900	6,609	8,727	16,336	43 " "
1910	18,334	13,421	31,755	57 " "
1920	24,353	16,124	40,477	60 " "
1930	36,745	21,894	58,639	61 " "
1940	43,048	25,368	68,416	63 " "

Source:—Annual Reports of the Indian Jute Mills Association, Calcutta.

4. LOOM WIDTHS.

41. The first power driven looms to be installed in an Indian factory were of two widths only, *viz.*, 34" reed space for narrow fabrics and 52" reed space for cloth up to 48" wide. It appears that during the first ten or twelve years, only the simplest form of sacking fabrics were produced and the maximum width reported was 39" for a Double Warp cloth used principally for bale covers. For ordinary bagging, widths varied from 26½" to 29".¹ The increased trade in hessian cloth which resulted from the industry's expanding markets soon showed that some widths were in regular demand in sufficient quantities to justify installing looms of sizes suitable to produce them with a minimum loss of loom space. The size in most common demand has for many years been 40", and through regular trade usage this has become the accepted standard width for hessian. The mills therefore have a greater number of looms suitable for producing these widths than of any other—in 1938 there were 724 looms of 45½" reed space ; 4,037 looms of 46" reed space and 15,643 looms of 46½". For the manufacture of wider hessian in common use, such as 45" and 48" widths there were in India in 1938, some 2,223 looms of 52" and 6,605 of 52½" reed space.²

42. It will be seen therefore that over 75 per cent. of the total hessian loom complement consists of looms of between 45" and 52½" reed space. There were, however, 37 different loom sizes registered with the Indian Jute Mills Association in 1938 ranging from 41½" to 86½", but there were some of even greater widths *i.e.*, up to 110". In sacking looms again, the great majority of looms are those of a width suitable for the production of the fabrics most commonly used, *i.e.*, those ranging from 26½" to 29". In 1938 there were 22,605 sacking looms registered with the Association, but of this total over 72 per cent. were between 36" and 37½" reed space, as follows:—²

36 "	...	...	4,395
36½"	...	...	1,277
37 "	...	...	4,828
37½"	...	...	5,802

Looms of narrow widths 32"-33½" account for 22 per cent. of the total sacking complement and the balance 6 per cent. is made up of

1. Wallace, *op. cit.*

2. See Annual Report of Indian Jute Mills Association, 1938, statement XII.

widths above 37½" ranging to 60" reed space. In all, sixteen sizes of sacking looms were registered with the mills Association in 1938.

5. SPECIAL LOOMS.

43. The manufacture of several special lines of fabrics calls for looms of special types and these are not included in the records either as hessian or sacking. First to be considered in this connection is the webbing loom. Webbing is made of narrow strips of jute cloth, sometimes of different colours. It varies in width from three to nine or ten inches and is used for a variety of purposes such as conveyor belts, binding, pipe wrappers, etc. The reed space of looms on which such goods are made is not more than 12". There are over 600 such looms in Calcutta mills, and their output of webbing is considerable.

44. Cotton bagging looms are of a special type built solely for the production of this particular fabric. This class of cloth which weighs from 2 to 2½ lbs. per yard is woven direct from light rove yarn. Each loom has a large *bank* set up behind it and on this the number of rove bobbins required to form the warp of the cloth are fitted. The weft of this cloth which is generally the same weight as warp is fitted into the shuttle (which is of a size approximately 15" long by 2½" broad) in the usual way. The looms are very heavily built, being from 50" to 60" reed space, cumbersome and slow working. There are about three hundred of these in Calcutta. Linoleum cloth, which is now being manufactured by two large mills, requires a distinctive class of loom. This fabric is generally made up into lengths of about two thousand yards, and a special mechanical device capable of winding tremendous yardage in the form of a roll, is fitted at the back of this loom.

45. For the purpose of jute rug and carpet making several mills have special looms, not generally included in the mills lists. These are of a broad type having in several cases special attachments to enable simple designs to be followed or other mechanical devices not usual on ordinary looms.

46. Upholstery fabrics from fine jute yarns, or containing flax or cotton yarns as well as jute yarns, can be produced on ordinary looms, but for goods of this nature on which floral or other intricate designs have to be worked out in different colours, the looms used are of jacquards special construction throughout, which bear little resemblance to the machines used for hessian or sacking production. There are, in all, only four looms of this type in Calcutta mills, and their function hitherto has been more experimental than productive.

There are over sixteen hundred of these various types of special looms in India, distributed in the various mills as shown below:—

Name of mill	No. of looms	Name of mill	No. of looms
BENGAL		BENGAL (Contd.)	
Agarpara	209	Luxmi	14
Barnagore	16	Shree Ganesh	48
Birla	135	Societe Generale Industrielle de Chandernagore	3
Eastern Manufactures	657		
Howrah	1	MADRAS	
Ludlow	299	Krishna Jute & Cotton Mill	50
		Total	1,608

Source:—Jute Statistics (1940-41), published by Messrs. J. Thomas & Co. Calcutta.

CHAPTER II

ORGANIZATION OF THE INDUSTRY IN INDIA

A. THE MANAGING AGENCY SYSTEM

47. The majority of jute mills in India operate under the control of Managing Agents¹—this system of conducting business is perhaps more common in India than in any other country. Early history of the trade indicates that the first mill built by Ackland in 1855 was a private venture, but it did not last long. Finance for the second mill in 1859 came from an established concern, the Borneo Company, which was registered in England and, having a large amount of idle capital on its hands, was induced by its Calcutta Agents, Messrs. George Henderson & Co., to invest a few lacs of rupees in the erection of a jute mill. The Gourepore Co., which followed in 1862, was promoted by one Dr. Barrie. It was originally a private firm but, later on, was converted into a company and is now under the control of Messrs. Barry & Co., which has important tea, oil and paint managing agencies also. The next mill to be erected in 1866 was the "India" at Serampore. This establishment was started by one Mr. William Haworth with finance provided by the partners of George Henderson & Co., Later, it was taken over by Messrs. Mackinnon, Mackenzie & Co., who now act as Managing Agents. During the next five or six years, the prosperous condition of jute trade appeared to offer greater opportunities to agency houses than the well established coal, tea, indigo or other industries and induced them to promote and establish a number of new mills. This was followed by a lean period, which several of the new concerns could not weather. They became moribund, but soon appeared again under new names and with new agents, and are now well established. From time to time, changes in control have been made and mills which were promoted by one set of agents have gone over to others, but considering the age of the industry, its somewhat speculative nature and the large number of mills involved, comparatively few changes have taken place.

1. The origin of the Managing Agency system is obscure but it has been traced back as a feature of Indian trading for over one hundred and fifty years.

B. THE ORIGIN AND ACTIVITIES OF TRADE ASSOCIATIONS

I. THE INDIAN JUTE MILLS ASSOCIATION.

48. Before 1884, when the industry was in the process of expansion, there was great competition among manufacturers to meet the steadily increasing demand for manufactured jute goods and considerable keenness was exhibited for business. Sporadic attempts were made to fix selling prices and to regulate production when necessary by voluntary agreement among the various mills. But unanimity was hardly reached in these efforts, and the attempts seldom proved more than partially effective. In 1884, however, the question of combining in some suitable form began to take shape, and in March of that year an informal meeting of jute mill owners and agents was called by Mr. Maitland Herriot, then in charge of the Barnagore Company, to discuss this possibility. It was held in the offices of Messrs. George Henderson & Co., and was attended by ten gentlemen representing the majority of mills then existing. The feeling of this meeting was strongly in favour of combination and a formal meeting was subsequently held in the rooms of the Bengal Chamber of Commerce on 23rd April, 1884, at which it was decided that an association of jute mills should be formed. In the course of subsequent meetings draft articles were formulated and submitted for general approval of owners and agents. On 7th July, 1884, the Indian Jute Manufacturers Association was duly constituted with a membership of nineteen, the first general meeting taking place on 10th November, 1884.

49. The objects of the Association, as originally drawn up, were, "to encourage and secure united feeling and action, to collect and classify facts and statistics, to open out new markets, to fix points of custom, to work on one form of contract, to obtain the removal of grievances, to arbitrate on matters of dispute, to communicate with public authorities or kindred associations, generally to promote and protect the interests of those engaged in the industry in all matters relating to it, specially in matters touching the interests of the members of the association and to do all such other lawful deeds as are incidental or conducive to the attainment of the above objects or any of them."

50. Notwithstanding the opening up of markets in foreign countries, the demand for jute goods could not be developed sufficiently to meet the production of Indian Mills and the first voluntary short time working agreement was entered into by all members of the Association (with the exception of a mill at Hooghly and one at

Serajanj) on the 15th February, 1886. The first period of curtailed working hours was for six months but the state of the markets was such that the agreement was renewed at intervals without a break up to 15th February 1891. The periods of work throughout the five years varied between four days weekly, nine days a fortnight and five days a week. Besides short time, 10 per cent. of the sacking looms were shut down for a short period in 1890. In addition, it was a condition of the agreement that none of the parties were to increase their spinning power during its currency, exception being made only in the case of incomplete mills. At a special general meeting on 25th July, 1902, the name of the Association was altered to 'Indian Jute Mills Association.'

51. With the expansion of the manufacturing industry, the Association assumed great importance both within the trade and in public affairs. Its original membership of 19 had increased to 46 by 1919, and in 1940 it stood at 73 including all but 11 of the smaller mills in India, which collectively represented only 5 per cent. of the total loom strength. During the first four decades of the Association's life, the objects as laid down were considered adequate to meet all requirements. But with the change in trading conditions consequent upon the first World War, and in view of the efforts made by many countries to compete with the jute trade by aiding their indigenous industries and also on account of the increasing need to encourage both technical and scientific development in the trade, the Association recast its aims as follows:—

- I. (a) To protect, forward and defend the trade of members of the Association.
- (b) To impose restrictive conditions on the conduct of the trade.
- (c) To adjust the production of the mills in the membership of the association to the demand in the world market.
- (d) To arbitrate on matters in dispute.
- II. (a) To protect the members of the Association against competition.
- (b) To secure the enactment of legislation to the trade.
- (c) To secure the repeal of any legislation or prevent the passing of legislation which is damaging or may in any way damage the trade.
- III. To secure by collective bargaining, or otherwise, advantageous terms of transport.

- IV. (a) To collect, classify and circulate statistics.
 - (b) To encourage and finance technical developments in plant and machinery necessary for the manufacture of jute products.
 - (c) To encourage and finance the scientific exploration of new uses to which jute can be applied and the discovery of by-products.
 - (d) To open out new markets.
 - (e) To fix points of custom.
 - (f) To adopt common forms of contract.
- V. (a) The establishment of a fund or funds.
 - (b) The giving of legal assistance in connection with all or any of the above objects within the limits allowed by law.
 - (c) The assistance of, or amalgamation with, other associations or societies or federation of associations or societies, having for their objects or one of their objects the promotion of the interests of the jute trade.
- VI. To do all such other lawful things as are incidental or conducive to the attainment of the above objects or any one of them.

52. The affairs and funds of the Association were originally managed by a Committee consisting of a Chairman and four members who were appointed annually at a general meeting. But, with the passage of time, the enlargement in the scope of the Association's interests, together with fast changing conditions of trade, necessitated an increase in the size of the Committee and two additional members were elected in 1920. In 1938, a new system of membership was introduced whereby mills desiring to participate in the activities of the Association and to receive the full privileges and benefits of the various constructive schemes operating within its framework, paid fees accordingly and were classed as 'A' members. Mills which did not wish to take up the full responsibilities of the above class were listed as 'B' members, paying a nominal subscription and receiving only restricted privileges. Two members were elected to the Committee to represent 'B' members. With the ever increasing volume of work brought about by the expansion of the industry and variety of interests outside the trade with which the Association was connected, it was found necessary to institute a system of Sub-Committees consisting of groups of men having special practical knowledge who deliberated on matters referred to their particular Sub-Committee before passing them on to the General

Committee for consideration and action. The Sub-Committees now dealing with matters concerning the Association and the trade in general are as follows:—

Factory Legislation Sub-Committee,
Industrial Legislation Sub-Committee,
Jute Research Committee,
Tariff Classification Sub-Committee,
Complaints Sub-Committee,
Contracts Sub-Committee, and
Technical Scholarship Sub-Committee.

53. The Association has for many years taken considerable interest in the politics and administration of the province, and forms a constituency which returns two members to the Bengal Legislative Assembly. Other official bodies to which members of the Association are appointed annually are—

The Railway Rates Advisory Committee,
The Indian Central Jute Committee, and
The Bengal Boiler Commission.

Committees of the Bengal Chamber of Commerce on which the Committee has representation are—

The Jute Forecasts Joint Committee,
The Industrial Legislation Sub-Committee, and
Board of Control (East India Jute Association).

Its interest in municipal and urban affairs is shown by representation on—

The Howrah Municipal Board,
The 24-Parganas District Board,
The Howrah Excise Licensing Board, and
The Barrackpore Excise Licensing Board.

In addition, the managers at mills within the membership of the Association are not infrequently Honorary Magistrates or Commissioners or Chairmen of the Municipal Councils in which their mills are situated.

54. The active support and interest shown in the various medical institutions in Calcutta and district is clearly demonstrated by the fact

that the Association is represented in the following Committees and Boards:—

The Calcutta School of Tropical Medicine,
 The Bengal Branch of the British Empire Leprosy Relief
 Association,
 The Presidency General Hospital: Board of Radium Trustees,
 Howrah General Hospital Committee of Management, and
 Calcutta Hospital Nurses Institution.

55. In recent years, the Association has taken up a comprehensive scheme of scientific research aimed at improving existing methods of manufacture and finding new uses for jute. After a survey carried out by a textile scientist specially brought out from England for the purpose, research laboratories have been established in Calcutta, where work is proceeding on carefully planned lines.

56. The welfare of jute mill labour is a subject which more and more engages the attention of the Association and its constituents, and substantial progress can be recorded in the matter of improving the working and living conditions of the workers. At all mills there are well equipped dispensaries, and many have maternity centres, crèches, schools and grounds for recreation. The entire Calcutta mill district is divided into five small areas in each of which is stationed a Labour Officer whose duty it is to keep in touch with the workers, to hear such complaints as they may bring to him, and to do all in his power to remove their grievances. Complaints of a serious nature are sometimes referred to the appropriate Sub-Committee of the Association for its consideration. The labour force employed by mills within the membership of the Association comprises of about 300,000 workers.

2. CALCUTTA JUTE FABRIC SHIPPERS ASSOCIATION.

57. Late in the nineteenth century when the export market was becoming an important factor in the trade in manufactured jute goods, buyers of gunny fabric for shipment experienced considerable trading difficulties through the large number of claims lodged by overseas buyers against the irregularity in weights, the generally low standards of quality and excessive moisture found in finished goods. Consumers complained that many bags had been packed in damp condition so that on arrival they were found to be rotten or pressed as hard as boards and unfit for use. As a result of the divergence in the individual bag weights, the packing of bales was correspondingly irregular, which caused much friction between the shipping companies and

gunny exporters. Individual representation to the mills had little effect and, as complaints were steadily increasing, Calcutta made goods were fast falling into disrepute. Many consumers barred the products of certain mills from their purchase lists but, as at that time demand far exceeded supply, manufacturers could always get buyers for their product and paid scant attention to the claims of either Calcutta merchants or the overseas consumers. Thus, conditions went from bad to worse, and much against their own inclination the majority of gunny buyers in Calcutta decided that some form of concerted action was necessary to bring pressure on the mills so that the position regarding the quality of deliveries could be improved for the good of the trade in general. A meeting of gunny merchants was, therefore, called and took place in the rooms of the Bengal Chamber of Commerce on 26th April, 1898. Over seventy per cent. of the shipping interests were represented at that meeting which discussed the unsatisfactory condition of the gunny bag trade and particularly in regard to the mills' reluctance to meet the buyers on points connected with irregularity of weights, measurement of bales, demurrage, unpunctuality in delivering goods, and mills' responsibility after the delivery of goods.

58. A committee, designated "The Committee of Gunny Bag Buyers", was formed consisting of six members, who elected Mr. G. C. Scaramanga, of the influential firm of Ralli Bros. as their Chairman. Their first meeting was held on 2nd May, 1898, and it was decided to address the Indian Jute Manufacturers Association and draw their attention to the fact that Calcutta jute manufacturers were losing reputation through the generally low quality of goods sent overseas, and also to request the mills to give consideration to the matter of claims from consumers abroad. As the representations made by this Committee failed to evoke a satisfactory response from the mills, it was decided to form a full-fledged association of gunny buyers, which could exert effective pressure on the mills to reduce the grievances of the buyers. Accordingly, at a general meeting held on 4th January 1899, it was agreed that the Jute Fabric Shippers Association should be formed for the purpose of placing the gunny buying business on a sound basis. A provisional committee formulated the rules of the Association and after these had been circulated to members the first general meeting was held and the association was duly constituted on 16th January, 1899.

59. The objects of the Association as originally formulated were, to encourage and secure united feeling and action amongst shippers, to collect and classify facts and statistics, to fix points of custom, to adopt uniform forms of contract, to obtain the removal of grievances.

to arbitrate on matters in dispute other than those provided for in the Rules of the Chamber of Commerce, to communicate with public bodies and authorities, or kindred Associations, and generally to promote and protect the interests of those engaged in the jute fabrics export trade of the Port of Calcutta, and especially in matters touching the interests of members of the Association. Membership was open to all persons and firms directly connected with the export of jute fabrics from Calcutta. Sixteen firms joined the Association at the time of its inception, and during the first year 5 more were admitted, making a total of 21.

60. At first, the Association confined its efforts principally to establishing better relations between shippers and mills. Three points which had for years been responsible for considerable friction were the subject of much discussion, i.e., liability for late shipments, bale measurements and what represented a fair average over the dead-weight of bales. During the year, there took place considerable improvement in the regularity of packing which led to greater uniformity in measurement, but mills declared that they were unable to define what fair average weight of goods should be. This caused much dissatisfaction and continued to be a bone of contention until 1901, when at a general meeting an agreement was reached whereby the following allowances were adopted — heavy goods $7\frac{1}{2}$ per cent and hessian 10 per cent over actual dead-weight, including excess weight and tare.¹ Another important matter to which the Fabric Shippers Association gave much consideration in the early years was that of arbitration. Several mills refused to go to arbitration in cases of dispute on quality, weight or points of custom, and as a result, cases sometimes dragged on for as long as two years before settlement was reached. The mills' reason for refusing arbitration in many cases was, principally, that the claims made against quality were excessive in regard to possible deterioration both in quality and weight.

61. The Association did not enjoy the full support of all gunny exporters during the first ten years, the number of member firms ranging from 70 to 80 per cent of the total. However, the variety of matters with which it dealt, particularly in connection with custom of overseas trade, increased steadily and its importance in general matters of gunny shipping continued to grow. This brought a greater feeling of confidence to many buyers, and many firms which had refrained from joining became members, so that by 1910 the membership increased to thirty-two firms.

1. Net dead-weight is the bare contract weight of the goods without considering any excess weight or tare.

62. During 1914-18, gunny shippers passed through a difficult time. Much dissatisfaction was caused by the decision of the Allied Governments to place orders for goods required for war purposes direct with the mills, and also on account of the order which prohibited exports of hessian cloth to various neutral countries. The question of freight too caused considerable difficulty, and the Association made strenuous efforts to improve conditions for its members, with appreciable success. After the last Great War, it succeeded in introducing new forms of contracts for trading in Australia and the United Kingdom which the shippers considered to be a considerable improvement on those previously in force. Membership in 1920 increased to 45 firms, which was an indication of the faith the shipping trade had in this association.

63. During the period 1920-30, there were few outstanding changes in the methods or customs of trading. Relationship between mills and the gunny buyers improved steadily, and the old feeling of antagonism was gradually dispelled. Up to 1920, membership had been almost entirely confined to European shipping firms, but during the following decade a number of Indian shippers also became members. The variety and scope of interests of this body widened during 1931-39, covering a large field of international trading. In 1936, the question of bale measurements, which for many years had been a subject of dispute between manufacturers and the association, was finally settled. After joint consultations, a list of allowances over net dead-weight was formulated in respect of practically all classes of cloth and bags manufactured by mills for export. Broadly speaking, they work out at approximately ten per cent. for hessian and seven and a half per cent. for sacking bags. The membership of the Association 1938-9 included 36 firms which handled over 90 per cent. of the gunny exports from India.

3. THE GUNNY TRADES ASSOCIATION.

64. The Gunny Trades Association was established in 1925, under the Companies Act of 1913, as a non-profit sharing Company. Prior to the formation of this body, it was a common practice for the firms and individuals in the bazar to put their own interpretations on the various terms of Indian Jute Mills and Calcutta Jute Fabrics Shippers Associations, contracts, under which all trading was done, and this resulted not only in confusion but often in the non-fulfilment of contractual obligations. The principal object with which this association was formed was to regularize the business in manufactured goods and to arbitrate in matters of dispute relating to this trade. The Association is affiliated to the Indian Chamber of Commerce.

Before 1938, there was only one class of members, the admission fee and annual subscription being Re. 1 and Rs. 12 respectively ; the number of members in 1926-7 was 72 only. Afterwards, however, two classes of membership were created, namely 'A' class or Association members and 'B' class or Associate members. 'B' class membership was created with a view to accommodate small brokers and jobbers, but it did not carry with it the right of voting. At present, the admission fee for 'A' and 'B' members are Rs. 5 and Re. 1 respectively, and the annual subscription is Rs. 30 for the former and Rs. 3 for the latter. The Association has in its membership, mills, shippers, brokers and jobbers. There are 109 'A' class members and 21 'B' class members. The rules framed by the Association for the conduct of business generally conform to those of the Indian Jute Mills and the Calcutta Jute Fabrics Shippers Associations, and refer to such matters as time limits for the despatch of and receipt of declarations of options, shipping instructions, tender of *pucca* Delivery Orders and mates' receipts, tender of bills and payment thereof, etc. It is interesting to note that the Association often invites the opinion of the Calcutta Jute Fabric Shippers Association on matters either concerning the market practices or relating to the interpretation of the terms of the contract. The Association has its own tribunal of arbitration and all matters of dispute between members are referred to this body.

4. JUTE FABRIC BROKERS ASSOCIATION.

65. In the first few years of the manufacturing industry, the buying and selling of jute fabrics was a simple operation, the manufacturer dealing direct with the merchant. It was not until about 1875, when the export trade in gunnies had become fairly well established that the need arose for buyers and sellers to call upon the services of brokers. These intermediaries served a useful purpose as they removed from the manufacturers' shoulders the necessity of searching for buyers and they were also able to assist buyers in obtaining the class and type of goods they wanted. During the next fifteen years the brokerage business thrived and about seventeen firms came into existence. The rate of brokerage was one per cent. and business was brisk and remunerative.

66. In 1890, however, mills within the Indian Jute Manufacturers Association entered into an agreement to fix a scale of minimum selling rates for fabrics used for consumption in India, rates for markets west of Suez being left open. But many manufacturers and merchants made attempts to evade the minimum scale, and certain mills appeared to encourage a system by which they were able to dispose of country goods at the fixed rates in consideration for selling a quantity of foreign

goods at buyer's prices. Brokers were accused of aiding in this evasion of the mills' agreement, and in 1892, the associated mills reduced the rate of brokerage from one to one-half per cent. as a protest against the brokers' action. This went a long way towards bringing the brokers together, and a joint representation to the Manufacturers Association resulted in the rate being raised to, and fixed at, three-quarter of one per cent in consideration of the future good behaviour on the part of the brokers. This rate of brokerage is still in force.

67. The quarrel with the manufacturers in 1892, taught the brokers a lesson, and after a series of informal meetings an Association was formed on the 23rd of August 1893. It was affiliated to the Bengal Chamber of Commerce in 1894 as the Gunny Fabric Brokers Association with a membership of 35 belonging to 17 firms—all European. Its objects were, and still are, 'to guard the common interests of its members and also in their relation to buyers and sellers and otherwise'. Certain of the rules of the Association were approved by the Indian Jute Mills Association with which the existence of brokers is closely bound up. In turn, the mills' Association agreed not to treat with any European broker for the sale of manufactured goods, who was not a member of the Fabric Brokers Association. No person is admitted to membership unless recommended by two members of, and approved by, the Committee of the Jute Fabric Brokers Association. If approved by the Committee, the applicant must be proposed by two members of the Indian Jute Mills Association and stand for ballot election. This close relationship with the mills has been strictly maintained since the inception of the Brokers Association.

68. The membership has fluctuated considerably in the past, and it is interesting to note how there has been an increase during the prosperous days and a fall when trade was bad. Starting in 1894 with 35 members, belonging to 17 firms, the number increased steadily to 49 and 91 members, belonging to 24 and 28 firms in 1901 and 1908 respectively. This marked a period of expanding business, opening up new avenues of consumption overseas. Then followed a phase of depression, and for the next five or six years trade was comparatively poor: by 1913, the membership of the Brokers Association declined to 75, belonging to 22 firms, and was further reduced during the Great War when mills were working at full capacity on Government orders, placed direct through the Indian Jute Mills Association. Business in jute fabrics outside of war requirements was relatively small, a fact which was reflected in the number of firms and members registered with the Association, being 17 and 71 respectively in 1918. The rehabilitation of trade in foreign countries in the years after the

war led to an increasing demand for the services of brokers. Gradually broking firms added to their staff, and in 1930 though only 18 firms were registered the number of individual members was 93—the highest on record. The widespread trade depression (1930-34), which so badly affected world conditions, had its effect on the broking fraternity as well. Lack of trade, and the fact that during the last ten years the number of Indian brokers has steadily increased, have caused a severe depletion in the ranks of European brokers, whose numbers declined in 1940, to 47 members working in 15 firms.

5. THE CALCUTTA HESSIAN EXCHANGE LTD.

69. This association, functioning as the futures market for jute goods, had its origin in the Calcutta Hessian Exchange which was established in 1919, with the declared object of protecting the trade, commerce and manufacture in jute, hessian, cotton, silver and other commodities. The latter was voluntarily wound up, and in 1929, the new body was formed as a limited liability Company with a capital of one lac of rupees, and with the primary object of regulating conditions governing the trade in "futures" relating to deliveries for Hessian, B. Twills and Australian Cornsacks. The rules bearing upon contract deliveries, options, payment of margins, etc., conform in principle to those of other trade organizations. It has its own Tribunal of Arbitration, the Honorary Secretary acting as registrar and some members functioning as umpires. Only disputes arising from irregularities in deliveries or custom of trade between various members of the Exchange are dealt with in this manner.

70. As a futures trading market, the Calcutta Hessian Exchange did not obtain the full support of the bazar which it was designed to serve. Bazar operators, desiring to hedge their purchase or sale of goods, usually preferred to do so in the jute futures market. The turnover of the hessian '*fatka*' was relatively small in comparison to the volume of trading done between bazar and mills or shippers. Mills never used this market at any time and *bona fide* shippers also kept away. Its minimum unit of sale was only 10,000 yards, a quantity too small for mills' or shippers' dealings, but this was raised to 50,000 yards on the 28th of October 1940. The membership in 1939 was 137 of which 111 were brokers and the rest bazar dealers together with one or two Indian shippers. Each member is required to hold one share of Rs. 500 in the company and to pay an entrance fee of Rs. 1,000 and an annual subscription of Rs. 72 payable quarterly. A member has to furnish surety for Rs. 20,000 but there is no provision for actual deposit of cash or securities. Surety may be dispensed

with and replaced by a limit on the amount of business to be done. The maximum limit for any member has been fixed at 25 lacs of yards of Hessians, or 15,000 bales of B. Twills or Cornsacks, but this general limit could be exceeded by a member by depositing a security in cash of Rs. 2 per 100 yards.

71. Delivery is made between the 25th and the last day of the delivery months—which are February, May, August and November—by passing a mill's *pucca* delivery order with elaborate provision for discounts, if the order is more than 18 months old. The corresponding period for Cornsacks is six months. Payment is, however, made immediately in cash or through a clearing bank. Margins are settled weekly and members have to fulfil their obligations. But, if a member apprehends non-payment of margin, he is required to report the matter to the Secretary who is expected to ask the party against whom the complaint is made to name some other member as his guarantee in respect of his liability. Subsequently, both parties to the contract have to procure members to accept liability for the said contract. On the other hand, if the member against whom a report is made is unwilling to arrange for the transfer of liability, both parties have to deposit with the Committee an *ad valorem* amount for the total quantity of the contract.

When the "Bengal Raw Jute Futures and Hessian Cloth Futures Ordinance 1940" was promulgated on the 18th of May 1940, fixing the maximum and minimum prices of 9 porter Hessians at Rs. 21 and 13 per 100 yards respectively, the operators could not transact business within these limits. Consequently, trading in the Exchange was suspended from the beginning of June, and was resumed only on the 5th of March 1941.

C. ECONOMIC IMPORTANCE OF JUTE INDUSTRY

72. The extent to which the jute manufacturing industry has contributed to the prosperity of India as a whole, and of Bengal in particular, may be gauged from the steady increase in the capital invested and the greater demand for labour, raw fibre, coal and machinery. When one considers that the industry originated less than 85 years ago with the establishment of a solitary power driven mill with a total output of only 8 tons per day, the progress that has been achieved appears remarkable, as in 1940 there were 113 jute mills in this country, with a productive capacity of about 5,000 tons per working day of 10 hours.

I. CAPITAL INVESTED.

73. It is not known how much Ackland invested in his venture, nor is sufficient information available regarding the original capital invested in the majority of mills established during the last century. The study of this subject is rendered difficult on account of the re-organization and expansion of mills and also due to the fact that a number of private mills were later converted into public companies with larger share capital. There are still some privately owned concerns which do not publish balance sheets or progress statements, which acts as an additional handicap. However, the following figures, compiled from the available data, may give an idea of the steady increase of the jute mill industry in India.

TABLE V

Year	No. of Companies	Subscribed Capital
1872	1	Rs. 64,12,500
1882	5	.. 2,63,37,500
1892	11	.. 5,47,17,500
1902	19	.. 8,03,67,500
1912	32	.. 11,11,67,500
1922	50	.. 19,15,91,310
1932	56	.. 20,63,46,800
1939	82	.. 23,75,49,285

Source:—The "Capital", the Stock Exchange Year Book and through the Indian Jute Mills Association.

And, at various periods, a number of companies issued debentures, which were valued at Rs. 2,15,45,000 in 1939.

74. In times of great prosperity, such as the last two years of the Great War and the years immediately following, mills almost without exception built up reserve funds which at the end of 1939 amounted to Rs. 10,16,44,322. This large reserve stood the mills in good stead during the lean years, 1923 to 1925, and again from 1929 to 1934 when conditions of trade were unfavourable and many mills operated at a loss. But, the companies floated during the period immediately following the Great War were not in the same secure position. At the time

of building, the textile machine industry was enjoying a boom and prices for essential mill equipment reached unprecedented levels. The subscribed capital of the new concerns was in a number of cases inadequate to meet erection costs, thus leading to the issue of debentures which, in conformity with the majority of new industrial enterprises in India at that time, carried high interest. During the adverse time that followed, these over-capitalized companies found themselves in considerable difficulties, which, coupled with the falling valuation of "block" due to the greatly reduced prices of new and better equipment, compelled several of them to write down their capital by as much as fifty per cent.

2. LABOUR EMPLOYED AND THEIR AVERAGE EARNINGS.

75. When mills were first established in and around Calcutta, there was an adequate supply of labour available locally which soon adapted itself to this new class of work. But, as new mills appeared, it was not possible to obtain sufficient labourers from the surrounding areas and consequently it was necessary to recruit them from distant parts of Bengal, and from Bihar and Orissa. In addition, Bengalis showed little inclination to take up work in industrial concerns. Workers drawn from other provinces have settled down well in mill employment and, while the great majority still retain connection with their village homes, an increasing number are becoming permanently domiciled in the mill area. A remarkable feature of jute mill labour has been the tendency for certain classes of occupation to be concentrated among members of certain communities. It is difficult to account for this except on the grounds that some of the races and castes of India have, through historical association with some particular trade or calling, developed a natural and traditional aptitude for certain mechanical process. The importation of workers from provinces outside Bengal has tended to make the labour employed in jute mills somewhat migratory in character, and it is the rule rather than the exception for such workers to take leave annually for 2 or 3 months. This leave is usually associated with some agricultural operation, such as the sowing or harvesting of crops on family land.

76. Working hours until the year 1872 were from 6 a.m. to 6 p.m. with two breaks of an hour each from 9 to 10 a.m. and 1 to 2 p.m. After that year, however, a crude system of double shift working was instituted whereby relieving squads enabled work to continue unbrokenly from daylight to dark. When electric lighting became general in the mills, i.e. from 1895 to 1900, multiple shifts were introduced which allowed the machinery to be worked for 15 hours daily, and the mills

generally ran 6 full days per week without involving the workers in undue strain. This system was observed in practically all mills, but with varying weekly periods of work until 1930 when the mills within the membership of the Indian Jute Mills Association entered into an agreement to adopt a single shift system of working, which is still in force. The hours agreed to were, 6 to 11 a.m. and from 1 to 6 p.m. or alternatively 1-30 to 6-30 p.m. In this way, the working day was divided into periods which did not occasion undue physical strain to the workers.

An idea of the labour force employed by jute mills in Calcutta area may be formed from the following figures.

TABLE VI
*Average daily number of workers
employed in jute mills*

Year	No. of workers
1893-94	67,502
1898-99	94,225
1903-04	123,869
1908-09	219,381
1913-14	234,609
1918-19	275,506
1923-24	330,400
1928-29	343,861
1933-34	257,109
1938-39	298,520

Source:—Statistical Abstract of British India.

In addition to the manual workers, all mills maintain large clerical staffs, comprised almost entirely of Bengalis, who perform the routine office work and keep the various records connected with the manufacturing processes.

77. *Wages*—Owing mainly to differences in the cost of living in the various industrial districts situated to the north and south of Calcutta, the rates of wages in jute mills vary to a slight degree. But this variation is largely between district and district; the tendency of the mills has been to standardize rates within the districts.

The following may be taken as fairly representative of the average wages earned by all classes of labour employed in a European controlled jute mill in the Calcutta area.

PRE-WAR RATES OF WAGES (PER WEEK OF 54 WORKING HOURS)

1.	Jute import & issue coolies	...	...	Rs.	4 8 0	to	5 0 0
2.	Selectors	...	...	..	4 0 0	..	4 8 0
3.	Softener hands	...	...	..	3 14 0	..	4 6 0
4.	Teaser & Carding workers	...	...	..	3 4 0	..	3 12 0
5.	Drawing frame hands	...	...	..	3 0 0	..	3 4 0
6.	Feeders	...	...	..	3 4 0	..	3 12 0
7.	Rovers	...	...	..	4 12 0	..	5 0 0
8.	Spinners—Hessian warp	...	...	..	4 12 0	..	5 0 0
	,, weft	...	...	..	4 12 0	..	5 0 0
	Sacking warp	...	...	..	(maximum)	..	4 0 0
	,, weft	...	...	..	4 7 0	to	4 10 0
9.	Winders (piece workers)						
	Warp	...	...	..	(maximum)	..	5 8 0
	Weft	...	...	..	(maximum)	..	5 8 0
10.	Beamers (piece workers)	...	...	..	5 0 0	to	6 0 0
11.	Weavers (piece workers)						
	Hessian	...	...	..	7 0 0	..	8 8 0
	Sacking	...	...	..	6 8 0	..	7 8 0
12.	Dampers, Weighing & Sack-cutting hands	...	...	..	4 0 0	..	4 8 0
13.	Calender workers	...	...	..	4 8 0	..	5 0 0
14.	Lapping hands	...	...	..	4 8 0	..	5 0 0
15.	Sack sewing hands (piece workers)	...	...	..	(maximum)	..	5 0 0
16.	Packing press hands	...	...	..	4 12 0	to	5 8 0
17.	Bale godown coolies	...	...	..	4 0 0	..	4 8 0
18.	Departmental coolies	...	...	..	3 12 0	..	4 0 0
19.	Oilers & Cleaners	...	...	..	4 8 0	..	5 0 0
20.	Pump coolies	...	...	..	4 8 0	..	5 0 0
21.	Coal coolies	...	...	..	5 0 0	..	5 8 0
22.	Workshop hands (moulders)	...	...	..	5 0 0	..	7 8 0
<i>Monthly wages</i>							
23.	Fitter mechanics (mistries)	...	...	Rs.	20 0 0	..	50 0 0
24.	Carpenters	...	...	..	20 0 0	..	45 0 0
25.	Electric mistries	...	...	..	20 0 0	..	70 0 0
26.	Engine drivers	...	...	..	20 0 0	..	50 0 0

78. The salaries of clerical staff in the mills vary over a wide field. Inside a mill, departmental clerks start work at a nominal salary of rupees sixteen to twenty per month rising to about rupees sixty. Those who have risen to be head clerks in their respective departments may earn up to rupees eighty per month. In the mill office, the senior clerk (generally referred to as the 'Burra Babu') may receive a salary up to rupees two hundred per month, or more. General office clerks are paid according to their years of service and the importance of the work entrusted to them ; their salaries ranging from rupees twenty-four to sixty or even up to rupees eighty. The extent to which the wages

earned by jute mill labourers contribute to the purchasing power of the poorer classes of people in the villages is reflected in the statement below, showing the total amount of Money Orders issued by the Post Offices serving the Calcutta jute mills during the period 1927 to 1939. This covers the prosperous years of 1927 to 1929, the depression period of 1930 to 1935 and the years of recovery (1936 to 1939).

TABLE VII
*Amount of Money Orders issued by Post Offices serving
Calcutta jute mills*

Year	Amount
1927	Rs. 1,64,28,525
1928	.. 1,73,57,816
1929	.. 1,76,29,387
1930	.. 1,65,68,683
1931	.. 1,45,29,477
1932	.. 1,39,02,627
1933	.. 1,40,04,591
1934	.. 1,46,34,342
1935	.. 1,47,02,860
1936	.. 1,55,39,611
1937	.. 1,63,65,851
1938	.. 1,68,48,063
1939	.. 1,69,49,026

Source—Annual Reports of Indian Jute Mills Association.

3. REVENUE FROM EXPORT DUTY.

79. An important item in the general revenue of this country is the sum derived from the export duty on jute and jute goods. This tax, first levied in 1916, was imposed for the purpose of increasing the country's revenue at a time of need. It was considered by the Government that the duty would in no way affect either the growers or manufacturers in India but would be entirely borne by the consumers. The rates charged originally were doubled in the following year (1917). Since then the position has remained unchanged, the present rates being—

1. Raw Jute—other than "Cuttings"	Rs. 4 8 0 per bale of 400 lb.
Cuttings	.. 1 4 0
2. Manufactured Jute—Hessian	.. 30 0 0 per ton (2,240 lb.)
Sacking	.. 20 0 0

As a matter of interest it may be noted that the duty was levied at a time when the price of raw jute ranged between Rs. 48 and Rs. 53 per bale of Firsts (M) and the standard eleven porter hessian was sold at Rs. 17 to Rs. 19 per 100 yds.

80. Since its imposition, the tax on the export of jute and its products has yielded a total revenue of not less than ninety-seven crores of rupees or about sixty millions sterling. During the Great War and for sixteen years afterwards, the entire proceeds from this tax were appropriated by the Central Exchequer. Following representations from the provincial governments, however, provision was made in the Government of India Act, 1935, to distribute 50 per cent. of the proceeds of the jute Export Duty among the jute growing provinces, which arrangement was given effect to in the year prior to the introduction of Provincial Autonomy. But, later, as a result of the recommendations of Sir Otto Niemeyer, the provincial share was increased to 62½ per cent. the allotment to each province being made in the proportion which the average production of raw jute for the five preceding years bears to the total outturn of jute in India during that time.

The table given below shows the amounts realized from the export tax on raw and manufactured jute. The period 1927-28 to 1939-40 covers the years of good trading (1927 to 1929), followed by those of slump (1930 to 1935) and finally the years of gradual recovery.

TABLE VIII
Export duty on jute & manufactured goods
(000's)

Year	Raw Jute	Sacking	Hessian	Total
	Rs.	Rs.	Rs.	Rs.
1927-28	2,18,69	98,71	1,42,49	4,59,89
1928-29	2,11,51	89,78	1,20,70	4,21,99
1929-30	1,98,85	1,07,21	1,60,19	4,66,25
1930-31	1,48,52	82,17	1,13,60	3,44,39
1931-32	1,44,08	72,77	93,16	3,10,01
1932-33	1,36,69	75,89	94,89	3,07,47
1933-34	1,77,56	72,03	97,08	3,46,67
1934-35	1,83,66	75,14	1,00,26	3,59,06
1935-36	1,85,84	79,65	1,12,13	3,77,63
1936-37	1,84,78	92,93	1,53,89	4,31,61
1937-38	1,79,89	1,00,17	1,52,96	4,33,02
1938-39*	1,64,64	90,21	1,43,64	3,98,49 (3,98,82)†
1939-40*	1,34,54	92,59	1,66,77	3,93,90 (3,94,84)†

Source:—"Jubilee" Number of the "Capital", November 1938.

*Figures for these two years have been supplied by Customs Office, Calcutta, and do not represent the all-India receipts.

†Figures in brackets (all-India receipts) have been supplied by the Director-General, Commercial Intelligence and Statistics, India, but details were not forthcoming.

4. SUPPORT TO OTHER INDUSTRIES.

81. Several industries and transport services have benefitted directly from the expansion of the jute manufacturing trade.

(a) *Coal*—Most important amongst these is the coal trade. Bengal and Bihar, both coal producing provinces, have for many years shared this lucrative outlet for a large percentage of their output, and the constant demand from the jute mills has been responsible to a considerable extent for the necessity of opening up new mines and extending the productive capacity of existing ones. Until as recently as 1922, all jute mill engines were steam driven but since then the tendency has been for new mills to go in for electricity as their motive power. Some have their own electrical plants while others obtain the energy from local generating stations. This had little general effect on the overhead consumption of coal as the power companies themselves were dependent upon it to provide steam to drive the generating plants. But the tendency for electrification has increased and, within the last five years, a number of large mills have installed motor drives in all sections, deriving their power from the Calcutta Electric Supply Corporation, Ltd., which has three powerful generating plants located in areas where mills are situated. It is estimated that over fifteen per cent. of the total loom strength is now electrically driven from these power-stations alone, and this has naturally lessened the amount of coal consumed by jute mills.

82. (b) *Railway & steamer companies*—The jute industry provides the railway and steamer concerns with one of their most important sources of income. The total quantity of jute—both raw and manufactured—carried by the Indian railways and coastal shipping lines, has been estimated at over one and a half million tons annually. It is not possible to calculate the freight value of this traffic owing to the variations in the quantities carried each year and the fact that there are hundreds of stations from which loose jute is sent or goods despatched and each of them has a different carriage rate. The following estimates worked out from official and trade figures, showing the average for the quinquennium 1933-34 to 1937-38, indicate the tonnage carried by railway, river and sea.

Loose jute	—	Railway ¹	610,000 tons
	—	Inland steamer services ¹	920,000 ..
Manufactured goods	—	Railway and Coastal supplying services ²	76,000 ..
			Total 1,606,000 tons

1. Source:—Indian Central Jute Committee's Marketing Enquiry.

2. Calculated from statistics published in the Annual Reports of the Indian Jute Mills Association.

83. (c) *Steel, Iron, Wood & Leather*—For many years, the mills in Bengal obtained the greater part of their requirements of iron and steel for buildings and other purposes from the United Kingdom. Since the development of the indigenous industries, however, mills have placed a large part of their orders for material of this nature with manufacturers in India. During the last 20 years, there has been a pronounced advance in the variety of products made from iron, steel, brass and other metals for use in the textile industries and this has led to an ever increasing turnover of business of considerable value to the country. The building trade must also have benefited from the erection of new mills and the expansion or alteration of the older concerns. It is not possible to give an estimate of the sums involved, but these must have run into crores of rupees. Other Indian trades that have derived considerable revenue from the jute manufacturing industry are leather and timber. There are, however, many possible openings for enterprising producers to share in the business of supplying mills with mechanical and general manufacturing requirements, and there is no reason to believe why any honest endeavour on the part of a local concern to produce the quality of goods required will not receive the full support of the mills.

D. WORKING HOURS AGREEMENTS

84. A complete statement, showing the changes introduced in the working hours of jute mills from time to time is given at Appendix B. It may, however, be pointed out that the earliest attempt at restricting production by means of reduction in working hours and the limitation of spinning capacity took place as far back as 1886. But, unfortunately, detailed information for the years prior to 1921 is not available. No development took place in this respect during the next decade, so that actually the period 1930 to 1940 is the most important, although for the sake of a comparative study the years from 1872 onwards have been included in the statement.

85. The period 1925 to 1929 was singularly prosperous one for the jute industry and was considered opportune for establishing new factories. In 1927, the Shree Hanuman Jute Mill was started, followed by the opening of several other mills in quick succession. These new units were of comparatively small loomage but, through their policy of working longer hours, made up much of their deficiency and returned relatively higher dividends to the shareholders. Moreover, they refused to join the Indian Jute Mills Association. As a result, the member mills revoked their long standing agreement—in force since April 1921—of working 54 hours per week, and from July 1929 began to work

60 hours.¹ This arrangement continued up to June 1930, but owing to the accumulation of large stocks of jute manufactures both in India and abroad, mills reverted to 54 hours per week from the following month. Negotiations with the six "outside" mills proved successful and 4 of the bigger mills joined the Association and agreed to work 54 hours. By that time, the World Economic Depression began to affect the jute industry adversely, and as a further precautionary measure the Association decided to continue working 54 hours and in addition to close one week per month, from October 1930 to February 1931.

86. With poor trading conditions and a dismal future, the Association, on the expiry of the above agreement, decided to curtail their production drastically by working 40 hours per week with 15 per cent. of looms sealed from 2nd March 1931. This policy did not seem to satisfy the new comers who contended that if such stringent steps were enforced on them, they would eventually be compelled to withdraw their membership, which they accordingly did early in 1932. Such an event greatly embarrassed the Association, and there was genuine fear that other mills might also feel tempted to work longer hours and make bigger profits by seceding from the Association. Nevertheless, the association maintained contact with the "outside" mills, although nothing satisfactory came out of the negotiations. Coincidentally, towards the end of 1931, the Government of Bengal circulated the Indian Factories (Bengal Amendments) Bill, to various trade associations for an expression of opinion. The Indian Jute Mills Association found itself unable to accept either of the two alternative sections, proposed for addition to Section 28 of the Indian Factories Act—arising out of the recommendations of the Royal Commission on Labour²—because both fell short of what the jute industry, as represented by the Association, regarded as necessary. The Association *inter alia* suggested certain modifications which were unacceptable to the Government. Thus, stalemate was reached, and the idea of a settlement was ultimately abandoned. However, in May 1932, Sir John Anderson, the then-Governor of Bengal, through his personal intervention was able to bring about an agreement between the Association and non-Association mills. It was finally decided that the former, with certain exceptions, were to continue working 40 hours per week with 15 per cent. of looms sealed, and the latter were to

1. The respective commencement and ending of the various working time agreements usually took place on the first and last date of the month referred to, unless mentioned otherwise.

2. The proposed amendment was in connection with the weekly and daily limits of working hours for factories in India.

work 54 hours per week with full complement of machinery. With the return of better trading conditions, the Association mills gradually unsealed their looms in the following manner:

2½	per cent.	in	November	1934,
2½	"	"	May	1935,
2½	"	"	August	1935,
2½	"	"	November	1935, and
5	"	"	February	1936.

Until March 1936, these mills continued the forty-hour arrangement.

87. In the meantime, considering the agreement of 1932 as a mere palliative, the Association kept up their search for a permanent solution. In June 1934, it requested the Government of Bengal to give statutory effect to the terms of the arrangement regarding working hours, mill extension, etc., which then existed between the Association and certain other mills outside its organization. The Provincial Government forwarded the representation to the Government of India. Ultimately, a considered reply was given in August 1935, intimating the Government of India's inability to support the proposal of the Association. The reasons for this decision and the conclusions arrived at by the Government were embodied in a memorandum.¹ The whole position may be summed up by saying that the Government expressed its willingness to consider the introduction of legislation, if

- (1) a scheme for the rationalization of the jute industry was prepared with the approval of a substantial majority of the mills, and was regarded as satisfactory by Government, and
- (2) the interest of the community in general and cultivators in particular were adequately protected.

This was followed by a counter reply by the Indian Jute Mills Association in November 1935, submitting a lengthy exposition of their case. In February 1936, however, the Government of India informed the Association that in view of the considerations set out in the letter, there did not appear to be any justification for undertaking legislative action.

88. Under the terms of the new agreement which came into force on 1st April 1936, the Association mills were permitted to work up to 54 hours per week; accordingly, some mills continued to work 40 hours, and others increased to 50 and 54 hours, while the majority adopted a 45 hours' week by working 40 and 50 hours in alternate weeks. The average working week for the mills in the Association was 46.28 hours. Through working at this rate, the production increased by 15.7 per cent.

1. The memorandum is reproduced *in extenso* at Appendix C.

The stock and trade position was watched by the Committee of the Association and it recommended to all Association mills that they should adopt 50 hours working per week on single shift from the beginning of July. This was accepted by all members of the Association, and resulted in the increase of the average working hours to 50.42. Later, the position was again reviewed and on the recommendation of the Committee, the working hours were further increased to 54 per week from the beginning of August 1936.¹

89. From 1st March 1937, however, in order to meet the competition from "outside" mills, all restrictions with regard to working hours were withdrawn, and a large majority of member mills continued to work 54 hours per week on single shift throughout that year. The following exceptions were, nevertheless, made to this general rule²:—

- (a) The Birla Jute Mills worked 132 hours on double shift as from 7th June 1937,
- (b) Union South Mills worked 108 hours per week as from 26th April 1937,
- (c) Union North Mills closed down on 27th March 1937,
- (d) Budge Budge and Orient Mills worked part of their machinery on double shift from the end of October to early December owing to the closing down of Lothian Mills during that period.

90. Again, during the greater part of 1938, the majority of the Association mills worked 54 hours per week on single shift, the following being the exceptions³:—

- (a) The Premchand Mills closed down on the 17th of January 1938, after working 54 hours per week up to that date,
- (b) the Union South Jute Mills continued working 108 hours per week as in 1937,
- (c) the Hukumchand Jute Mills worked 108 hours per week on double shift as from 14th February to the 25th of April 1938,
- (d) the Lansdowne Jute Mills worked 108 hours per week as from the 3rd of January 1938,
- (e) the Clive Jute Mills worked 108 hours per week as from the 28th of February 1938,
- (f) the Chitavalsah Jute Mills worked 59 hours per week,
- (g) the Birla Jute Mills worked 108 hours on double shift as from the 18th of April 1938, as compared with 132 hours formerly.

1. Vide *Report of the Indian Jute Mills Association*, 1936, p. 32.

2. " " " " " " " " " " 1937, p. 39.

3. " " " " " " " " " " 1938, p. 72.

The Bengal Jute Ordinance came into force on the 26th September 1938, whereby all mills in Bengal were compelled to work 45 hours per week, with the exception of mills with 175 looms or under which were permitted to work 72 hours per week. During the rest of the year under review, there was no other change in the working hours.

91. On 20th February 1939, another Working Time Agreement was brought into force, according to which mills worked on the basis of 45 hours per week, but those with registered complements of looms not exceeding 220, worked 72 hours. Again, a few mills were allowed longer hours in order to make up the time lost through strikes, breakdown of machinery, etc.¹ At a subsequent date, the Committee reviewed the stock position of both hessians and sackings and made a strong recommendation for curtailing production, with effect from 31st July 1939, by working 45 hours per week, with 20 per cent. of the registered complement of hessian looms and 7½ per cent. of sacking looms sealed, the duration of this arrangement being left to the discretion of the Committee. The recommendation was accepted with the proviso that this supplementary agreement did not apply to mills having registered complements of looms not exceeding 220. But, as a result of discussions on this matter between the Committee and the Government of Bengal and in view of the then existing political situation, it was finally decided to accept the Government recommendation, according to which mills were required to work 40 hours from 31st July 1939, and to seal the number of looms necessary to give the requisite number of loom hours on the basis of 45 hours per week with 20 per cent. of the hessian and 7½ per cent. of the sacking looms sealed. This arrangement came into force in due course, but soon the circumstances were completely altered due to the outbreak of war in Europe and the receipt of large orders for sandbags from the British Government. Consequently, the Supplementary Working Time Agreement was suspended *sine die* with effect from 13th September 1939. As from that date, the mills reverted to the original Working Time Agreement, i.e., the hours of work were increased from 40 to 45 and the sealed looms were once more released. Further, on the Government orders for sandbags being repeated, the working hours were increased to 54 and 60 per week from 25th September and 3rd November respectively. The Provincial Government exempted the jute mills from certain of the provisions of the Indian Factories Act, to enable them to work 60 hours.

1. Vide *Report of Indian Jute Mills Association, 1939*, p. 44.

92. Towards the end of January 1940, the Indian Jute Mills Association agreed to a request from the British Government to extend the delivery period for sandbags by three months, that is up to the end of July. As a result of this, and having regard to the stock position at that time, it was decided to reduce the working hours to 54 per week with effect from 8th April.¹ Adverse war conditions in Europe, the consequent loss of markets, and shipping difficulties necessitated a fresh review of the situation early in July when the stock position at the end of June was examined. It revealed that since the reduction of working hours in April, hessian stocks decreased by 12 crores while stocks of heavy goods increased by 3½ crores of yards. It was known to the Committee that towards the close of June, no less than 15,000 tons of manufactured goods, destined for the United Kingdom alone, had been carried forward by shippers owing to lack of shipping space, and that these goods were included in the Association's stock figures. At this point, a large order for sandbags was almost completed but there was hardly any sign of further big orders coming in; consequently, it was thought that the working hours of mills with more than 220 looms should be reduced sufficiently to offset the impending cessation of the sandbag orders; and, as one-sixth of the total loomage of the Association was then engaged in the production of sandbags, it was resolved to reduce the working hours by one-sixth. Accordingly, the required one month's notice was given to members, and the mills with more than 200 looms worked 45 hours a week instead of 54 from 19th August 1940, which arrangement remained in force throughout the year.

93. The shortage of shipping space, however, continued and by the middle of August about thirty per cent. of the total stocks of the jute mills were lying unshipped. To cope with this situation, the Committee recommended that with effect from September 1940, mills should close for one week in every four, in the first instance for the following three months, with provision whereby similar closures could be continued if necessary. The recommendation was accepted by all the members of the Association and was incorporated in a Supplementary Agreement. Mills with 220 looms or less were specifically exempted. The mills affected, therefore, remained closed in September, October and November. And, after an examination of the position in November, it was again decided that mills should close down during the second week of December, 1940.

1. Vide *Preliminary Issue of Indian Jute Mills Association Report*, 1940, p. 40.

CHAPTER III

UTILIZATION OF JUTE FOR MANUFACTURE

A. INTERNAL ORGANIZATION OF MILLS

I. DEPARTMENTAL DISTRIBUTION.

94. There are six main départements in a jute mill, namely, the Batching, Preparing, Spinning, Winding, Weaving and Finishing departments, each representing a stage in the process of manufacture. Thus, the 'batching' department is concerned primarily with blending various qualities and grades of jute in order to ensure uniformity of strength and colour in the different types of yarn. The application of oil and water and the simultaneous softening by machines, essential for reducing the somewhat barky raw material to smooth, pliable easily worked tissue, are also undertaken in this department. A series of carding, drawing and doubling processes, undertaken in the 'preparing' department help in straightening out the fibre into a continuous ribbon called 'Sliver'. This passes through the roving process, where the sliver is twisted and wound on to rove bobbins for the spinning. Next comes the 'spinning' department where yarn of various weights and degrees of fineness is spun. Afterwards, the yarn goes to the 'winding' and 'weaving' departments.¹ Finally, in the 'Finishing' department, the cloth passes through a series of processes designed to improve its appearance before it is folded into a 'cut' or 'bolts' and packed in bales for export. In this department, bags of many varieties and sizes are also cut, hemmed, sewn, bundled and baled prior to shipment.

95. The engine room together with the boilers, pumping plant, and fire prevention services are important units in the lay-out of a jute mill. Elaborate workshops are provided in which many classes of work can be undertaken, such as, moulding and casting spares for machines, tinsplate work, acetylene and electric welding, woodwork of all descriptions. Jute storage godowns, a store—for stocking a multifarious collection of mechanical parts, lubricating oils, belting, bobbins, etc., which are required for replacing worn out or broken parts—the manager's office and the dispensary complete the buildings outside the main factory. The import of jute and, in most mills, the export of gunnies, are under the control of the general office, as well as the preparation of all records

1. For details, see Section B, *infra*.

concerning the maintenance and running of the mill, the labour employed, wages paid and all other clerical or accounting work.

2. STAFF.

96. A feature of the jute trade in India is the large number of Scotsmen engaged in all its branches. However, there is nothing strange about this as the trade owes much to Dundee, particularly in regard to the technique of manufacture developed there and the fact that much of the machinery used is constructed in or near the town. Mechanical and textile assistants have had, almost without exception, previous training in Dundee, and the majority, in addition to years of practical experience, have supplemented their knowledge by undertaking two or more years' study in theory and practice at the Dundee Technical College and School of Art. Many hold the Spinning and Weaving Certificates of that institution and also of the City & Guilds of London Institute, the premier centre for technical education in Great Britain. Engineers in many cases hold the British Board of Trade Chief Engineer's certificate. Clerks are recruited either from mills or the offices of jute merchants in Dundee. Most of them hold the certificates of the Dundee Technical College referred to above and have a sound working knowledge of mill procedure.

97. The duties of the superior staff may be described as follows:—

(a) *Manager*—He is the officer-in-charge of the mill and is responsible for

- (i) the general maintenance of machinery and buildings,
- (ii) The maintenance of quality and output of manufactured goods,
and
- (iii) control of staff and labour.

In the larger mills, the manager is generally helped by one, or perhaps two assistant managers, one devoting his attention to the textile side of production and the other to the maintenance of mechanical efficiency throughout the mill.

(b) *Engineer*—Next in importance is the engineer whose duties are many and varied. In addition to the care of the engines, boiler plant and electrical equipment, he is also responsible for the running of the workshops, repairs to buildings, upkeep of cranes, jetties, pump houses, water supply, workers' accommodation, the maintenance of roads and the general upkeep of the mill compound.

(c) *Textile & mechanical staff*—Inside a mill, each department is under the supervision of overseers, who are highly trained practical assistants having specialized knowledge of the processes of manufacture

in their own particular sections. Mechanical experts are responsible for the care and maintenance of all textile plant.

(d) *Clerical staff*—The office, which is under the direct control of the manager, generally has one or more European clerks in charge of various sections, such as

- (i) jute import and gunny export,
- (ii) stores,
- (iii) production and wages.

3. SYSTEM OF WORKING.

98. With the exception of minor details, the system of working is very nearly uniform in all mills. The particulars of sales, which are made in the Calcutta offices, are sent to the mill where the details of production are worked out. The width and weight of fabrics are of the utmost importance and close supervision is maintained, both in the factory and finishing department, to keep them in accordance with contract specifications.

4. LABOUR.

99. When the first mills were established, the labour employed was composed of local spinners and weavers who adapted themselves to their new work under the guidance of European overseers. But, as stated previously, with the expansion of the industry, the local supply became inadequate to meet the demand, and workers had to be imported from other places. The recruitment of labour was entrusted to contractors, and this most probably was responsible for the introduction of the *sardari* system of working. Every department had—as it has even now—a head *sardar* who was primarily responsible for the regular supply of labour which he maintained by importing workers from his own district and by keeping them under strict control. His hold on labour was further strengthened owing to the language difficulties experienced by the Dundee overseers who were thus unable to establish direct contact with the labourers. The supply of labour is no longer a problem, except perhaps at a time of epidemic. The *sardari* system is now being gradually eliminated, and although a few mills still engage their workers through *sardars*, the majority of the larger groups now have well conducted employment bureaux through which all labourers are recruited. Head *sardars* now work primarily as labour overseers, being concerned only with the supervision of the workers under their immediate control. Next in importance are the line *sardars*, employed in the various sections of each department. They are usually senior workers selected for their superior intelligence.

The workers fall into two categories—skilled and unskilled. Ordinarily, those fresh from the country start as coolies and the enterprising among them try to learn the elementary skilled work of the section to which they are attached, hoping in course of time to join the ranks of skilled workers. Through their own efforts they may become line *sardars*, and even head *sardars*. A noteworthy characteristic of jute mill labour is that, although they are engaged in industrial work, the labourers do not forsake their agricultural holdings, and large numbers take leave to return to their homes for the purpose of cultivating the land.

B. PROCESS OF MANUFACTURE

100. *General*—In jute manufacturing phraseology, the processes of batching, preparing, spinning and winding are carried out in the “mill” and those of weaving and finishing in the “factory”. These distinctions had their origin in Dundee where the preparation of yarn in cops, spools or any other form, is undertaken by spinners in mills, while dressing, beaming, weaving and occasionally, finishing is carried out in factories. There are several small companies in Dundee which specialize in the last process only, having machinery capable of making up cloth in a large variety of ways from ordinary calendering to mangling, crimping and rolling, etc. Other concerns confine their activities to bag making. In India, however, all operations from batching to finishing are undertaken under one roof, and the description below naturally refers to the procedure followed there.

Before cloth is manufactured, fibre passes through various mechanical processes which transform it from individual fibre strands of varying lengths, thickness and weight into yarn of uniform weight, strength and density; then it is woven into cloth. The mechanical procedure followed in the manufacture of jute is the same throughout the world and a simple description of this is given below. As stated above, there are six principal stages in the course of manufacture, each indicating that the jute has reached a certain degree of progress in its transition from fibre to cloth. These are—

1. Batching,
2. Preparing,
3. Spinning,
4. Winding,
5. Weaving, and
6. Finishing.

On arrival at a mill, jute is inspected carefully and an estimate made of the possible proportions of hessian and sacking quality it may contain. When the time comes to issue it for manufacture, the manager is guided in his selection by the estimates of yarn outturn made at the initial inspection. Except in cases of special fabrics, which require jute of a particular type or variety, bales from various districts, i.e. soft, medium, hard, white and *tossa* having similar yarn outturn, are placed together in the mill. In most cases, jute has characteristics either in fibre strength, colour or fineness distinctive to the area or district in which it is grown. It is, therefore, necessary for the purpose of maintaining uniformity in strength and colour to blend the fibres carefully at the time of batching so that the pronounced character of any one fibre does not predominate and affect the quality of yarn or cloth. The bales are, therefore, placed according to their assessed yield of yarn, i.e., those with a high proportion of hessian in that section and those of the lower grade at the sacking end of the mill. Trained assorters then open the bales and from each *morah* separate the different qualities suitable for hessian or sacking warp and weft. These are piled in four bundles and removed to the appropriate section of the batching house in which that particular class of fibre is handled.

I. BATCHING.

101. Jute is then ready to undergo its first process, viz., batching. It has long been realized in the trade that the process of judicious blending and batching is one of the most important in jute manufacture and to quote a well known authority, "the foundation of good cloth is laid in the batching house". Therefore, considerable care is given at all times to the treatment of the fibre in the first stages of manufacture. Jute, owing to its highly lignified character, is stiff and harsh as compared with flax, for example, and the process of batching has as one of its aims the softening of the fibre. Until this softening treatment was thought of, the spinning trials in Dundee were not very successful. Experiments were made by applying whale or seal oil mixed with water on the raw fibre as it was extracted from the bales. This was found to provide ample softening of the fibre for carding and the later processes, but the heavy fish oil made the rollers of the cards greasy and dirty. Gradually it was replaced by mineral oil which is widely used in batching. Most mills in India at the present time apply the water and oil in form of an emulsion. The water and oil is emulsified by using approximately .3 per cent. soap or proprietary emulsifying agent. In comparatively few cases the water and oil is applied separately. The emulsion may be applied either hot or cold.

102. (a) *Hand and machine*—Two different methods are followed in batching, viz., by hand and by machine. In the case of the former the fibre, after passing once through a softener, is taken to a stall where the *morahs* are folded with the root ends in the centre and laid out in single rows. As each row is completed, a measured amount of either oil or emulsion is sprayed evenly over the roots by hand and this is followed by an even distribution of water. The amount of water applied depends upon the class or condition of the fibre, but the usual proportion is four or five parts of water to one part of oil. Fibre is piled in even rows until the batching stall is filled, and usually a cloth is placed over it to prevent quick drying and loss of heat in the upper layers. The period of batching depends upon the quality of fibre being conditioned. Heavily rooted or hard fibre may take one week, but soft jute cannot stand long batching of this nature and may be in the stalls for a day or two only.

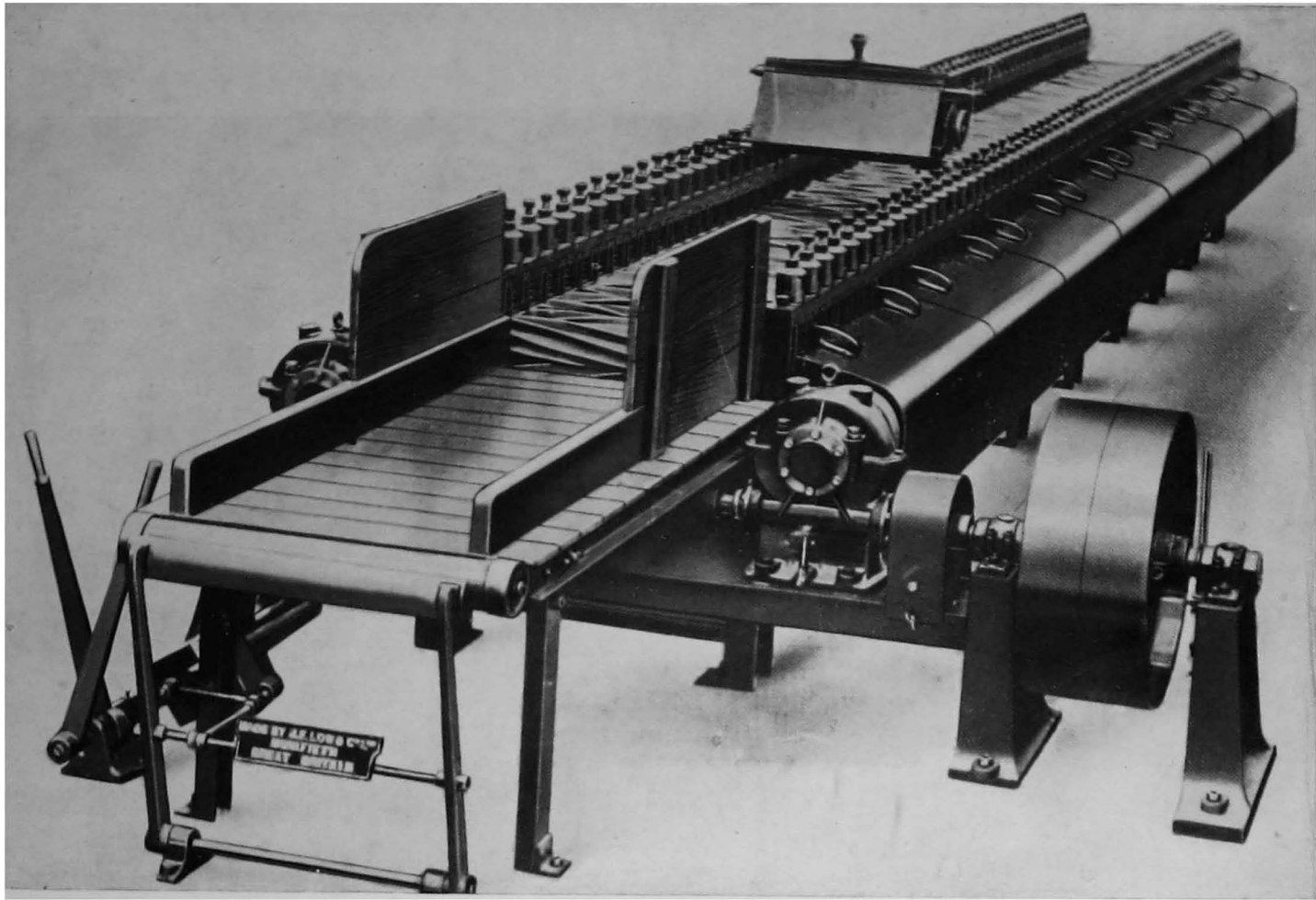
103. Machine batching is preferred by some mills because the spraying of lubricants is effected by mechanical means, and it is considered that a more uniform distribution is possible than can be obtained by hand. Others, again, consider that this system does not lead to such a thorough impregnation of the fibre with oil and water as the hand method. The most common practice followed is to batch the finer qualities of jute by machine and the lower grades by hand, but there is no hard and fast rule, and the actual batching methods used depend largely upon the system considered most effective by the management.

104. (b) *Softener*—The machine batching process is carried out on a 'softener'. For jute, these machines embody from 48 to 72 sets of rollers, or any number which, with addition of one, becomes a multiple of eight. These are built in sections, each containing eight pairs of oblique spiral fluted rollers. Jute is fed into the machine, and as it passes between the rollers, and the bending the fibre gets when it passes in and out of the flutes, softens the fibre and breaks off any barkly portion adhering to it. As it proceeds through the 'softener' an emulsion of oil in water, or oil and water separately, is sprayed over it by mechanical distributors fixed above the rollers. The flow of oil and water, or of emulsion is mechanically controlled. In some mills jute is processed twice in the above manner before carding, but this is a matter of individual choice on the part of the management.

2. PREPARING.

105. The operations which are included under this head, are—

(a) *Carding*—whereby the raw fibre strands are split, shortened



JUTE SOFTENER

*Engraved and Printed by
S. S. P. Ltd., Calcutta*



BREAKER CARDS

in length, combed and drawn into a loosely knit 'sliver', or ribbon of fibre.

- (b) *Drawing*—in which the attenuation and longitudinal splitting of the fibre is continued, and by doubling and drafting, the sliver is drawn into a compact smooth ribbon.
- (c) *Roving*—wherein drafting is further carried on and in addition, a twist imparted to the drawn out 'slivers' to make a 'rove' which is wound on to a large wooden bobbin in readiness for actual spinning.

106. (a) *Carding*—When the fibre has been suitably conditioned, by batching and softening, it is ready for one of the most important treatments in its manufacture. This process, termed 'carding', consists of reducing the average length of fibres by teasing and combing, putting them into a more or less parallel formation and delivering them in the form of a long continuous ribbon or sliver. It is passed through two sets of cards—

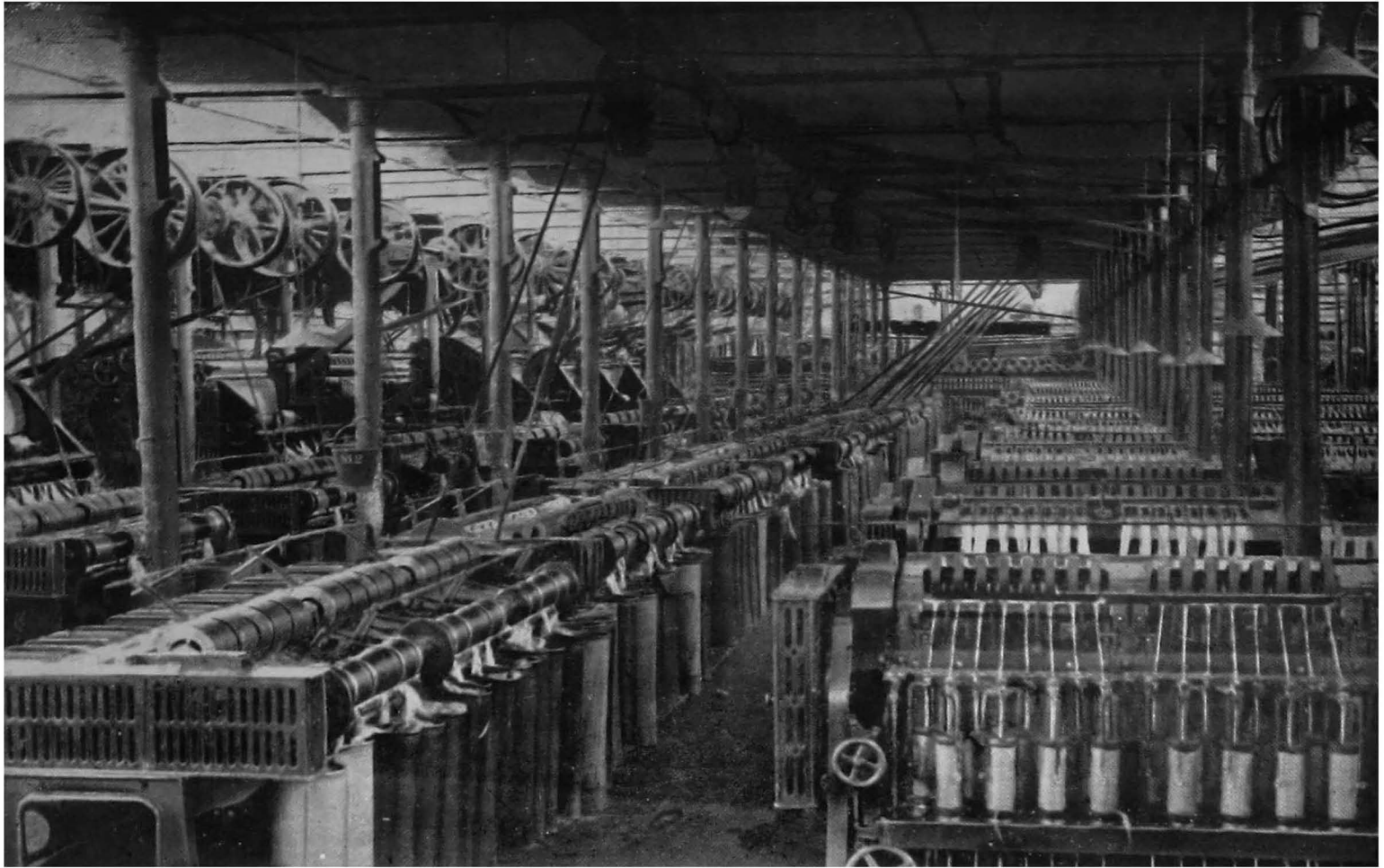
- (i) the breaker and
- (ii) the finisher.

In appearance, these machines are similar, differing mainly in the method of feeding and the degree of fineness or the setting of the steel pins and the number of rollers which perform the carding operation. The action in both cases is similar, as will be seen from the following account.

(i) *Breaker Card*—After softening, the fibre is arranged in bundles, uniform in weight, called 'dollops'. These are placed close to a worker whose duty it is to feed this machine. He aims at distributing the 'dollop' evenly over a definite length of the feed cloth, which is indicated by the revolution of a pointer on what is known as a 'Dollop Clock' and which is mounted at the end of the feed roller. The fibre is carried over the cloth to a slowly moving roller which, faced by series of steel pins, draws it into the machine. The actual 'carding' or 'combing' operation takes place as the fibre is carried downwards by a steel pinned cylinder, and comes in contact with the 'stripper' and 'worker' rollers. These rollers are travelling at a much slower speed than the cylinder, the 'worker' roller travelling slower than the 'stripper'. The whole action causes the fibre to be 'carded' out. The fibre is then worked slowly round the main drum, or cylinder, and is finally collected by the 'Doffer' roller and delivered through the Drawing Roller down the conductor through the delivery roller and thence into a can known as 'sliver can'. These are long boxes of ply wood, or fibre rectangular or oval in section, and measuring approximately thirteen by ten inches and about three feet high.

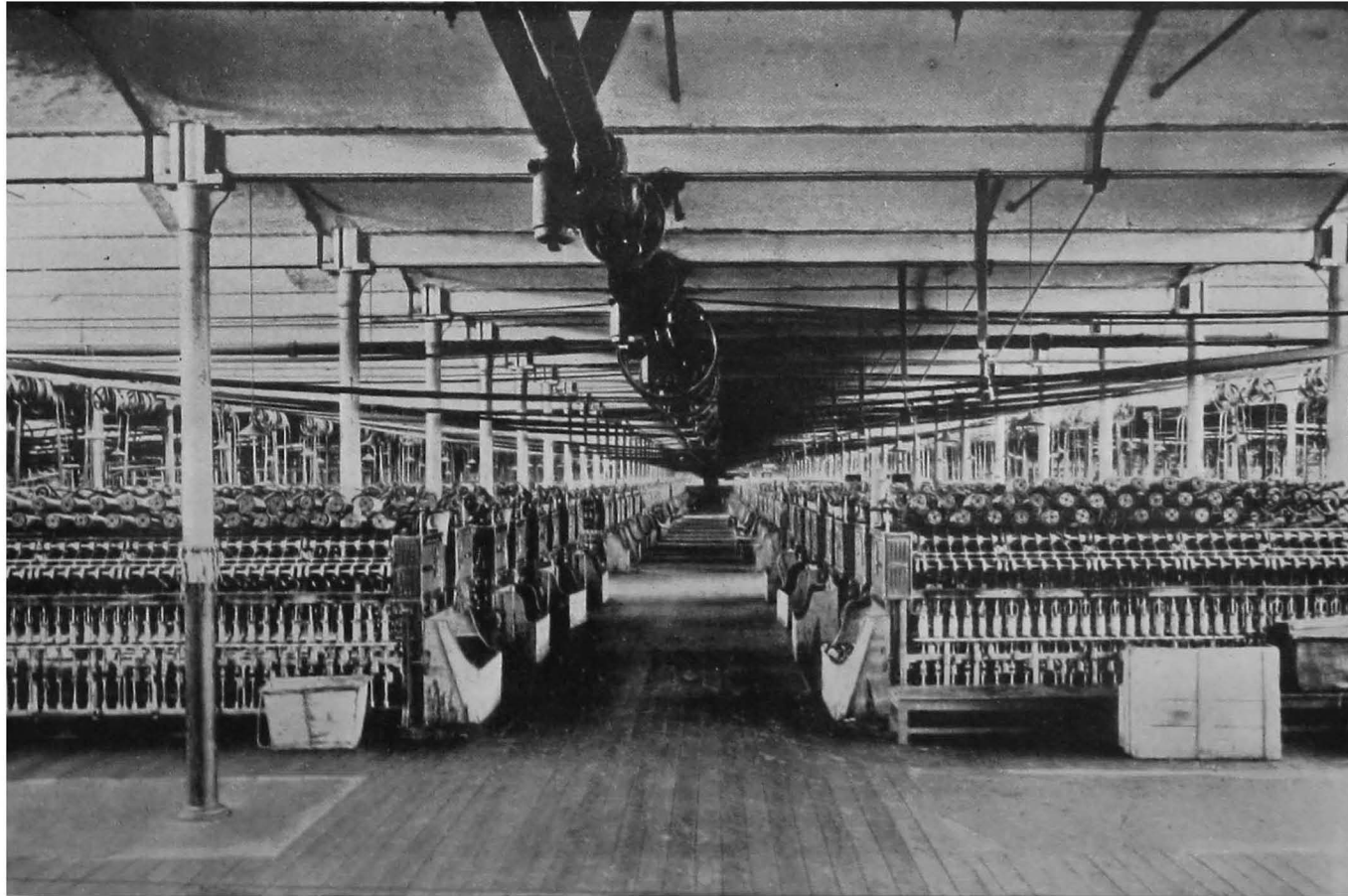
(ii) *Finisher Card*—The action of this machine is almost identical to that of the breaker, its function being to carry further the teasing and combing, commenced in the first card. It is fed by slivers up to twelve in number and since only one end is delivered twelve ends are doubled into one ; this helps to blend the colour and quality. The slivers are passed through guides, on to a feed cloth and between pinned feed rollers to the surface of the revolving cylinder. During its passage through this machine the sliver is subjected to more severe splitting and attenuation than can be achieved during the first carding operation. In the breaker, there are only two sets of 'strippers' and 'workers' disposed round the main cylinder, whereas the finisher may have four, five or even six sets, and in addition the pins may be set closer, thereby producing a finer ribbon of sliver. After processing, the sliver leaves the machine and is collected through the conductor into a can. In some modern machines the sliver is formed into flat coils instead of being collected in cans.

107. (b) *Drawing*—The name given to this process explains its purpose, which is to draw out the fibre and gradually reduce the weight of sliver to a size that can be suitably twisted into a rove for spinning. In the carding process, the attenuation and longitudinal splitting is obtained by the circular movement of the pins in the cards, but in 'drawing', sets of moving pins, referred to as 'gills', pass through the sliver and this, combined with progressive attenuation, evens out its irregularities and helps in making the fibre parallel. The process of doubling, i.e., the running of two or more slivers together to make one, is combined with 'drawing'. These operations are customarily carried out on two machines, 'first and second drawings', but in a few mills where light-weight yarns of 5 lb. per spindle or less are prepared, three sets of drawings are sometimes used. There are two types, the Push Bar and Spiral, but the former is almost exclusively used in mills in India. The principles of both are the same, the difference being only in the mechanical method employed in driving the gill bars and pins forward through the sliver. From the cards, cans of sliver are placed behind the drawing frame and the required number of ends are fitted into guides and fed into the pair of 'retaining rollers' at the back of the machine. The slivers pass from the retaining rollers through sets of gill pins to drawing rollers set at a definite distance in front. The distance between the retaining rollers and the drawing rollers is known as the reach, which is an important adjustment in the process as it must be a little greater than the longest fibre strand, so as to prevent rupture in its passage through the machine. This condition is necessary as the surface speed of the drawing rollers is much greater than that of the retaining rollers. It is the difference



DRAWING AND ROVING FRAMES

*Engraved and Printed by
S. S. P. Ltd., Calcutta*



SPINNING DEPARTMENT

between the surface speeds of these rollers that produces the attenuation of the sliver and the amount of this attenuation is known as the 'draft'.

108. (c) *Roving*—This stage of manufacture is carried out on a machine which combines features common both to drawing and spinning machinery. It performs several operations in quick succession which include continued drafting and making the fibre parallel, imparting a slight twist to the drawn out sliver to form what is known as 'rove' and winding it on a wooden bobbin. The feeding mechanism at the back of the roving is similar to that of a drawing and the sliver is carried through retaining rollers to drawing rollers which contact with small leather or cork faced pressing rollers, one to each end of sliver at the front. In its passage between these rollers it is treated to a final combing through the medium of pins set in moving gill-bars penetrating and passing through it. On emerging from the drawing roller the drawn out sliver is subjected to its first twisting motion, through the medium of a revolving spindle. A channel shaped bend, known as 'flyer', attached to the top of the spindle, carries the rove to a bobbin where it is wound evenly in single layers the length of the bobbin shaft. For the ordinary run of yarns, such as those used in practically all mills in India, the size of bobbin used is ten inches by five, i.e., 10" between the 'flanges' and 5" outside diameter, but for finer light weight yarns other sizes are occasionally used, i.e., 9" × 4½" and 8" × 4". This may be said to complete the preparing stage, and the rove goes forward to the actual spinning operation.

3. SPINNING.

109. Bobbins of rove are placed on the iron pins near the top of the frame above all moving parts. The rove is led singly between retaining rollers over a breast plate and enters a conductor which guides it into the 'nip' between the pressing roller and a drawing roller. Final drafting takes place at this stage, and the fibre emerges from the drawing rollers as yarn. It is led round the top of a steel flyer which is affixed to a moving spindle in the older type of frames, and threaded through an eye at the end of the flyer arm to the spinning bobbin. The latter is raised and lowered by a builder motion so that the yarn is distributed evenly within the range of the bobbin flanges. The degree of twist imparted to the yarn is regulated according to the class of yarn required: this may vary from 3½ to 4 turns per inch for hessian yarns and for sacking warp and from 2½ to 3 turns for sacking weft. Yarn weights are carefully regulated during the process of spinning and at set times daily tests are carried out and necessary adjustments made in the mechanism to ensure uniformity in weight.

In the majority of mills in India the frames used are of the revolving spindle type, double-sided, each side having from 64 to 80 spindles capable of spinning yarn at the following approximate flyer speeds.

Hessian	...	...	2,750 to 3,000 revolutions per minute			
Sack (warp)	...	...	2,400 to 2,700	..	..	..
Sack (weft)	...	...	1,450 to 1,750	..	..	..

Within recent years, the development of the spinning frame has proceeded rapidly and improvements such as automatic doffing, improved spindle design, overhung flyers, etc., are incorporated in the latest machines which are capable of spinning yarn at higher speed than the other frames. Only a few mills in India have so far introduced those modern types, but as the existing frames lose efficiency through long service, they are being replaced by the new models.

110. (a) *Twisting*—For certain branches of the trade, it is necessary to twist two, three or more threads of yarn by a process technically known as 'twisting'. This operation is carried out on a twisting frame which, in appearance, is similar to an ordinary spinning frame, except that it does not include the drafting mechanism. Bobbins of spun yarn are placed on the 'hake' above the frame and the number of threads required are led through the retaining roller and flyer and on to a bobbin generally 4" diameter and 6" long. The revolving flyers twist the single strands together and they are wound evenly on the shaft of the bobbins.

111. (b) *Reeling*—Reeling is a comparatively simple operation consisting solely of winding the yarn from the spinning or twist bobbins on to a reel of a suitable width and of a fixed circumference. It may be of interest to note that the circumference of the reel was fixed by an Act of Convention of Estates in 1665, as under

"That linen yarn be sold by weight and that no reel be shorter than ten quarters" (of a yard).

The same size has been adopted for all jute yarns, the circumference of a reel being ninety inches or two and a half yards. Large quantities of jute yarn intended for export are reeled and made up into hanks, bundles and bales. All yarns, intended for dyeing, are reeled, as in this form it facilitates handling and is sufficiently loose to permit the liquor impregnating the thread. For the manufacture of ordinary hessian and sacking, reeling is not required, except for the dyed thread in sacking cloth.

4. WINDING.

112. After spinning, yarn is ready to be wound in a manner suitable to enable it to be made into cloth. There are two series of

yarn threads known under the technical names of 'warp' and 'weft'. The longitudinal threads constitute the 'warp', while the transverse threads are called the 'weft'. The methods by which these two sets of yarn are combined necessitate their being wound on two different types of winding apparatus, namely—

- (a) Spool winding for warp,
- (b) Cop winding for weft yarn.

(a) *Warp or spool*—The spool winder is commonly used by mills in India. It makes a spool or roll of warp measuring 10" long by about 10½" in diameter, and holding approximately one spindle of yarn, i.e., 14,000 yards. Full bobbins are fitted to steel pins ranged along a bar on the machine and the thread is slipped through a yarn guide and attached to a wooden centre set horizontally on a steel rod. When in motion, this centre revolves by coming in contact with the driving roller and draws the thread direct from the spinning bobbin. The guide moves rapidly from side to side, actuated by a grooved cam, and this rapid traverse action, combined with the rotation of the roll, enables the yarn to be built up evenly on the wooden centre or spool.

(b) *Weft or cop*—The yarn required for weft is removed to its appropriate winding section for winding to enable it to be made up in a size to fit into the shuttle of a loom. There are several different types of cop machines used in the trade but they differ only in details of construction. All achieve the same result. In every case, the yarn is wound on a steel spindle over a yarn guide which having a rapid traverse furnishes cross-winding movement necessary to make a stable and firm cop. When it is built to the size required, the spindle is mechanically withdrawn and the weft yarn is ready for the loom, leaving a round column of thread with a cone shaped end, the overall measurement being about 10" long by 1½" in diameter.

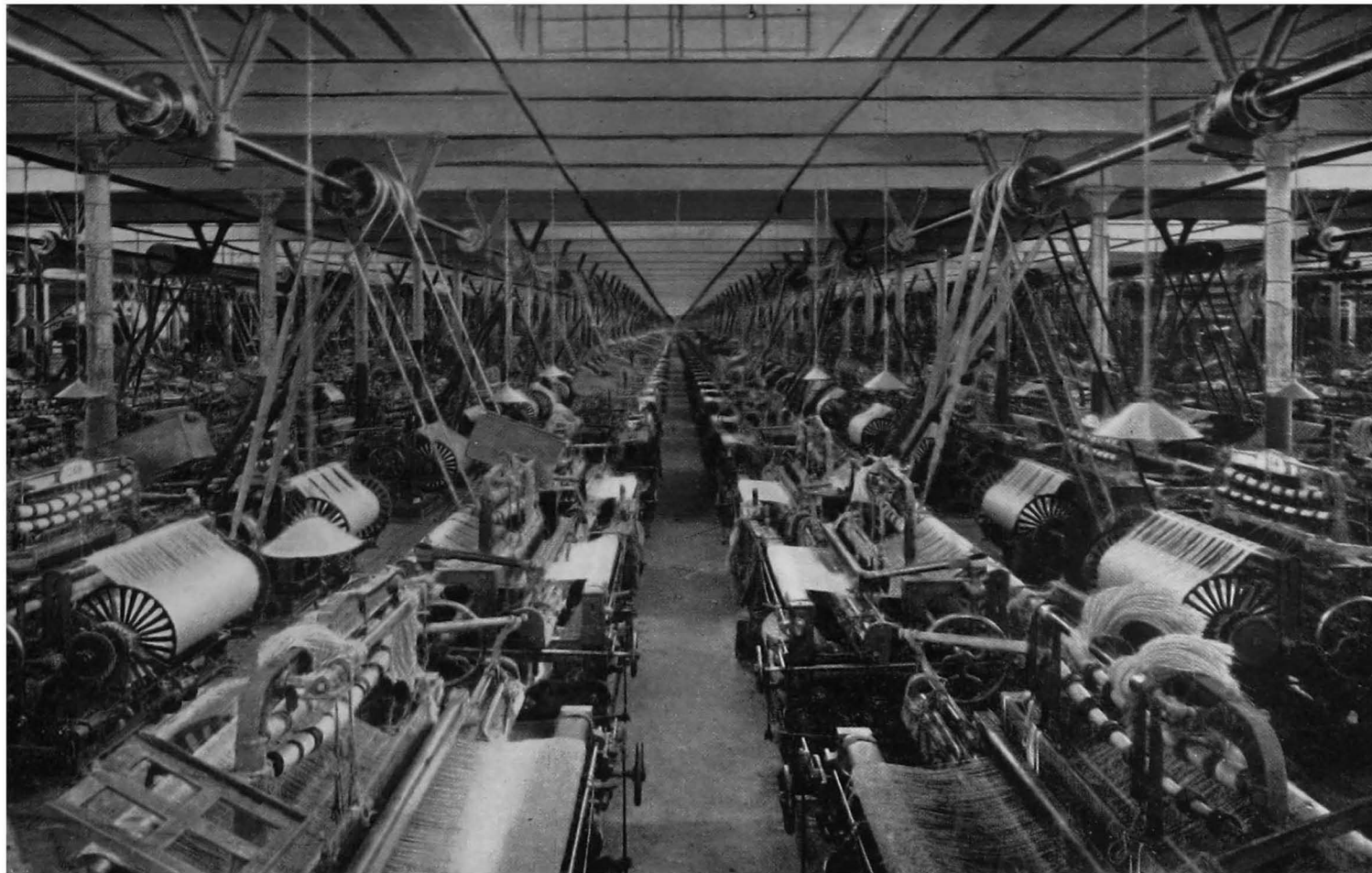
113. (c) *Dressing & Beaming*—This is the final treatment given to warp yarn before weaving, and consists of coating the threads with some suitable dressing or sizing mixture, usually containing starch, drying and winding them on a beam. The action of the dressing composition is to smooth down the natural hairiness in jute fibre and stiffen it. For many types of cloth this treatment is a necessity. Not all the mills in India dress yarn before weaving, and the term applied to warp not treated as above is 'dry beamed', as it is simply run from spools mounted on suitable banks on to a beam of the required size. The dressing machine in common use in India is double ended, having three steam heated steel cylinders located on either side of the beaming mechanism, together with tanks for containing the dressing mixture, which is generally a composition of potato starch or sometimes wheat

starch. At either side of the cylinders are large 'banks' or 'creels', each capable of holding 500 spools of warp threads which, when the machine is in motion, are drawn separately through metal reeds, immersed in the starching mixture and then dried by passing over the whole surface area of the steam heated cylinders. The yarn is then wound evenly on to a beam, which is a steel tube having large circular metal flanges. When filled, a beam may hold sufficient yarn for ten or eleven cuts of hessian or nine to ten cuts of sacking cloth. In some mills, only hessian yarns are dressed and those for sacking are dry beamed.

5. WEAVING.

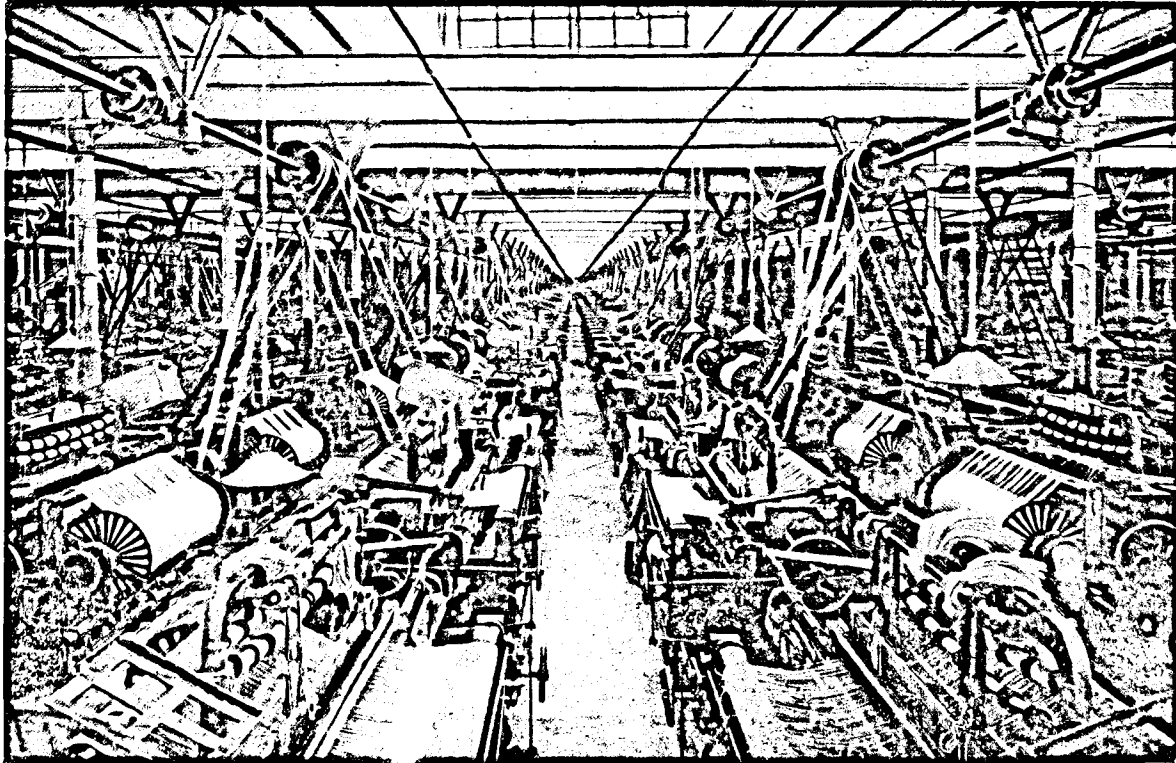
114. The process of forming a web of cloth by intersecting threads of warp and weft is termed 'weaving' and the machine on which it is carried out, a 'loom'. The warp beam is fitted at the back of the loom and the individual threads are brought forward through two sets of 'cams' and a camb like steel 'reed', over the 'lay' i.e., the bed in which the shuttle moves backward and forward to the cloth roller in front of the machine). When in motion, the two cams move up and down alternately and thereby raise half and depress half the warp threads forming a V-shaped opening or 'shed'. The shuttle containing a cop (of weft) is driven alternately from side to side across the surface of the lay through the 'shed', leaving a trail of thread and forming a selvage at the edge each time it makes a journey. With each single shot of weft, the lay moves back and coming forward again beats each successive weft thread close up to the one which preceded. The majority of mills in India work for ten hours each day; the speed at which their looms work is also more or less uniform. The speed of a loom is judged by the number of shots of weft it is set to make in one minute. The technical term used to describe this is 'picking', which refers to the backward and forward motion of the picking arms, which connected by leather straps to a cowhide picker, forces the shuttle containing weft from one side of the loom to the other. Speed is regulated by fitting pulleys of different sizes to the driving gear of the loom, or alternately to the overhead driving shaft. The size of the pulley needed to drive the loom at the number of 'picks' required is worked out carefully, the basis of the calculation being the speed of the overhead shaft in relation to the surface speed of the pulley. A large pulley naturally reduces the number of picks per minute and to increase them a smaller one is used.

115. For the more common type of fabrics, the following loom speeds are general in mills in India.



WEAVING DEPARTMENT

*Engraved and Printed by
S. S. P. Ltd., Calcutta*



WEAVING DEPARTMENT

*Engraved and Printed by
S. S. P. Ltd., Calcutta*

Ordinary sacking looms up to 37½"	...	160 to 170	picks per minute.
Ordinary hessian looms up to 46½"	...	150 to 160	" "
Ordinary hessian looms up to 58"	...	140 to 150	" "
Wide looms over 60"	...	125 to 140	" "
Canvas looms up to 50"	...	130 to 140	" "

Practically all standard hessian products are of the simplest construction, consisting of the interlacing of single threads of warp and weft—generally termed 'plain weave'. Hessian, canvas and tarpaulin is similarly 'plain weave', but for most of this type of cloth the fine warp yarn is passed through the cambs in pairs. All sacking products have also paired warp threads and several types of bags are of 'plain weave', referred to in the trade as 'double warp'. Other sacking is woven in 'twill' pattern, having three or four leaf cambs which regulate the warp thread movements.

Cloth is made in pieces, known as 'cuts', which vary according to mill practice—hessian from 110 to 125 yards and sacking from 90 to 100 yards. The weaver is guided by the mark on the warp yarn that is stamped on at the time of beaming, and he cuts the piece at this mark after it has reached the cloth roller at the front of the loom and removes the woven cloth for the final process, viz. finishing.

6. FINISHING.

116. On leaving the looms, the cloth is in rough condition, the surface is somewhat uneven, and weaving faults such as missed threads of weft, broken warp, etc., may occur in many parts. In order to improve its appearance and render it more fit for the purpose it is intended to serve, it undergoes a series of processes which are jointly referred to as 'finishing'. These include—

(a) *Cropping*—This process serves to remove all projecting fibres from the surface of the cloth which gives a smooth appearance. The cloth is drawn through the machine in which spiral blades or knives working against 'ledger plates' shear off any knots and loose ends from the surface of the cloth. The cloth is then cleaned by rotary brushes. The cloth may also be finished by what is known as 'chesting' i.e., the cloth after passing the lower nips is rolled upon the top bowl, upon which it is subjected to heavy roller pressure for a few minutes.

(b) *Damping*—To prepare the cloth for subsequent processes in which heat is generated for the purpose of accelerating finishing, the cloth, after being removed from the looms, is passed over a damping machine. In this machine a fine spray of water is deposited on to the cloth surface as it passes quickly between revolving rollers. The

quantity of water sprayed is regulated and care is exercised at the stage to ensure that the correct amount of moisture is given.

(c) *Calendering*—This process follows damping and is carried out on a calender. The five cylinders or 'bowls' of a calender are superimposed. Those at the top and the bottom are of metal, the intermediaries of compressed paper and in the centre a hollow cylinder through which steam passes. In front, tension bars or rails are used to keep the cloth under process at a controlled degree of tension and from the top of the machine horizontal levers to which weights are attached are used to regulate the degree of pressure on the upper rollers and to aid in producing different types of finishing. In the case of standard fabrics the process is as follows: The cloth is placed on the floor, threaded amongst the tension rails, passed between the two lower bowls, then round the steam heated roller and finally between the top and second bowl. The effect of this pressure is to flatten out the threads and picks so that the interstices which are present after weaving are eliminated. For ordinary calender finishing, the cloth proceeds straight through the machine and is delivered from between the upper bowls at the far side of the machine. Up to this stage, both hessian and sacking cloth receive identical treatment; the bulk of the former then goes forward for folding and packing and the latter for cutting and making into bags.

(d) *Mangling*—This is carried out on a heavy machine somewhat similar in appearance to a calender. In mangling the cut of cloth is first beamed hard round an iron roller or 'pin' and placed between the bowls of hydraulic mangle, when the roll of cloth is rotated first in one direction and then in the other under great pressure for about a quarter of an hour. The mangle gives a soft-to-handle finish which greatly depends on the amount of moisture in the cloth. The cloth is first damped, calendered and then mangled.

(e) *Lapping or Folding*—From the calender, the 'cuts' of hessian are measured and the actual length carefully noted on each. They are then taken to a lapping machine which folds them into sizes suitable for the final operation namely, packing them into small compass and baling them by means of hydraulic presses.

(f) *Cutting & Sack Sewing*—Cloth, either hessian or sacking, which is to be made into bags, is taken from the calenders to be cut into suitable lengths. It is placed before a sack cutter, a machine having a long steel cutting edge set in slightly spiral fashion in a revolving frame. By pulley adjustment the machine can cut to any desired length. For ordinary bags, it is customary to cut the cloth three inches more than the actual length of the finished sack. This is to allow for

hemming at the mouth. The cut pieces are then taken to the sack sewing department where they are made into bags. Completed bags are made up into bundles—sacking twenty-five and hessian twenty-five or fifty and subsequently are removed to the packing department for baling.

(g) *Packing and Baling*—Baling is done in hydraulic presses. These are powerful machines capable of packing large quantities of cloth or bags into relatively small compass. In the course of packing, the goods are wrapped in gunny cloth to protect them from becoming dirty and soiled, and metal bands or hoops are fitted to keep the bales secure. The completed bales are then stored, awaiting shipment. The above describes the finishing and packing of the more common types of fabrics which are made in great quantities in mills in India.

C. TYPES OF GOODS MANUFACTURED

117. *General*—About ninety-five per cent. of the fabrics produced by jute mills in India are of those qualities for which there is a constant world demand on a large scale. Compared with cotton and flax products, for example, jute goods are coarse and loosely woven, and are not normally so strong or durable. It is mainly because of their cheapness that they have gained such popularity as containers for various types of produce. For general utility purposes, jute products fall into four classes of manufacture.

1. *Hessian*—a light plain woven fabric weighing seven to twelve ounces per yard, with a normal basic width of 40 inches. Other widths, however, are also in frequent demand. The colour of this fabric demands, as a rule, that it should be manufactured from good quality white jute.
2. *Sacking*—heavy loosely woven cloth, either plain or twill, weighing from twelve to twenty ounces per yard of different widths, and ordinarily made from the lower grades of fibre.
3. *Canvas*—a closely woven cloth of fine texture, weighing from fourteen to twenty-four ounces per yard of 36" wide. In all cases, it is made from the better spinning types of white and *tossa* jute.
4. *Yarn & Twine*—Yarn is the thread produced in a spinning frame, and twine is made by twisting together from two to five strands of yarn on a special frame.

1. HESSIAN.

118. The uses to which this class of fabric is put, are many and varied, such as, meat wrappers, linoleum and floor cloth backing, cable wrapping, brattice cloth for roads, cement cleavage fabrics for the building trade, linings for clothing and many others. Overseas buyers stipulate the size, width and weight of cloth required which is sent from Calcutta in finished lengths or cuts. These buyers distribute it either as cloth or make into bags of sizes to suit local requirements. Hessian bags—such as wheat pockets, grass and seed bags, sugar pockets, onion pockets, cotton packs, sand bags, etc.—are also made in the Calcutta mills for export.

2. SACKING.

119. A large quantity of sacking cloth is exported overseas, where consumers make it up into bags of sizes suitable for use in their own countries. Other uses to which cloth of this type is put are pack sheets, horse covers, furnishing foundations, etc. The bulk of sacking, however, is made into bags in this country and the trade names of several, noted below, indicate both the uses to which the bags are put as well as the extent of the world demand for them.

Australian Cornsacks,
Egyptian Grain Sacks,
Cuban Sugar Bags,
Salt Nitrate Bags for Brazil,
Sugar Bags for Egypt and the Levant,
Java Sugar Twills,
Australian and the Cape Woolpacks.

3. CANVAS.

120. This is the finest jute product made in any appreciable quantity by mills in this country. It has a fairly wide consumption in India itself where it is largely used for boat hatch covers, sun blinds, covers for merchandise of all descriptions, and after treatment with bituminous emulsions as tarpaulins. In recent years several mills have undertaken the manufacture of goods which hitherto were made in the United Kingdom and Europe only. These include fine count hessians, canvases, rugs and carpets, coloured webbing, binding and union fabrics of jute and cotton. Production of these articles has hitherto not been great although a growing demand is being created for them both in this country and abroad.¹

1. A detailed list of hessian products made by mills in India is given at Appendix D.

4. JUTE YARNS & TWINE.

121. There is not much single-strand yarn sent overseas, as the main demand for it is in Calcutta itself. Many mills do not have sufficient spinning machinery to meet the demand for yarn from their own factories, while others, more fortunately placed, sell their surplus stocks when the occasion arises.

(a) *Jute twine* of various weights and thicknesses is used extensively both in India and abroad. The local mills themselves consume large quantities for sewing purposes, but several groups specialize in its manufacture for internal consumption and as well as for export.

(b) *Country twine*—The twine, intended for sale in India, is made from sacking yarn of thirteen or fifteen lb. per spindle and from three to five ply. This is made up in hanks of two sizes on reeling machines either of 72" or 90" circumference. The hanks are made up in bundles generally of 14 or 56 lb. then into iron bound bales of five or ten maunds. The twine is used for many purposes, particularly, as sewing twines of all descriptions, carpet backing, cord and string for general tying purposes, garden twines, etc.

(c) *Export twine*—Both hessian and sacking yarn is used for making this class of twine and it is put to a greater variety of uses overseas than in India. The countries to which the bulk of it is sent are South Africa, Australia, New Zealand and South America where it is reported to be widely used for general tying purposes, sacking, garden twines, packing for pipe joints, cable binding, etc. Hessian twine is in common demand in three colours, viz.—

White, made from light coloured jute,

Golden brown, made from *Tossa*, and

Blue—dyed, *i.e.*, white twine used principally for distinctive sewing on Cape woolpacks and other bag.

This twine is generally made from 8 lb. yarn in hanks of 6 oz. and 8 oz. bundles of 9 lb. and baled in lots of 450 or 820 lb. dependent upon the market to which it is sent.

(d) *Sacking twine*—It is usually made from 12 lb. yarn of natural colour, and is packed in the same sizes of bundles and bales as hessian.

5. STANDARD SIZES OF SACKING AND HESSIAN PRODUCTS.

122. *General*—The earliest classification of Indian made goods is recorded in Wallace's "The Romance of Jute". It was made by the Borneo Company early in the decade 1860-1870 and comprised a simple range of sacking fabrics as under:—

'A' Twill sacking 26½ in., 8 porter, 10 shots, for standard 2½ lbs. 44 in. × 26½ in. grain sacks, blue stripped.

'C' Double Warp Bagging 28 in., 8 porter, 9 shots for standard 2½ lbs. 40 in. × 28 in. Burmah rice bags.

'E' Double Warp Bagging 29 in., 5 porter, 8 shots for standard 1¾ lbs. 40 in. × 29 in. unhemmed bags used double for wheat. Also a Double Warp 38 in. cloth, 6 porter, 8 shots, plain or stripped, was used chiefly for bale covers.

The three sacking fabrics 'A', 'C' and 'E' were practically the only ones produced by mills in India during the first twelve or thirteen years of their existence, and it is interesting to note that these three standards are still in force for 'A' Twills, Heavy 'C' Bags and 'E' Bags.

123. In 1868 the first serious attempt was made to establish contact with overseas markets. With the opening of new mills, production soon exceeded the demand both from India and the neighbouring countries, and it became imperative that new outlets should be found. The Borneo Company, which had all along shown great enterprise, was the first in the export field but their initial overseas shipment did not have a very happy result. Contracting to sell 2½ lbs. 3 bushel twill bags to the United Kingdom, they sent their 2½ lbs. 8 porter 9 shots 'A' Twills—one of the three standard sacks then produced. The quality of the Indian made bags was poor, and the buyers lodged a complaint on the grounds that the bags averaged 2 to 3 lbs. and the shotting varied from seven to ten per inch. As a result, the Borneo Company was obliged to settle at a loss of one pound sterling per bale.¹ This illustrates the poor quality of the early machine made jute products of India. It appears, however, that this experience of the Borneo Company had a salutary effect on the whole trade, and resulted in a general effort to produce cloth and bags which would compete successfully with Dundee made goods. Consequently, by 1875, Indian cornsacks, woolpacks and hessian bags commanded a good sale in Australia, New Zealand and South Africa in direct competition with the Dundee fabrics. A few years later, Calcutta made hessian wheat pockets were introduced in the American markets, thereby creating a healthy demand; which continued to grow during the subsequent years. Egypt was the next country to recognize the quality of Indian goods, and by 1885 a steady trade was being conducted in Daira Twills, Cotton Packs, Grain Sacks, etc.

124. The unfortunate experience of the first shipment to the United Kingdom retarded for some time the development of sales in that country. However, from about 1880 onwards, the enterprise of a Calcutta shipper and his English selling agents was rewarded by the

1. cf. Wallace, *op. cit.*, p. 26.

creation of demand for 2½ lb. Twill Bags, Double Warp Flour Bags and Twill Salt Bags, which in a few years resulted in a steady trade. But, it was not until about 1890 that the important market of South America were added as an outlet for Indian jute products. The first sacks exported there were the loosely woven 40" x 28" 'E' Bags, which were followed a few years later by 36" x 25" twill nitrates for the West Coast trade. The Argentine, Brazil and Cuba all came into picture within a few years with ever increasing demands for sugar bags, ore pockets, hessian bags, etc. The requirements of these important markets have been met and sustained over many years and are of the greatest importance to the trade.

125. (a) *Sacking bags*—The steadily expanding trade in gunnies naturally led to a great increase in the variety of products manufactured in this country. From the three sample standard bags, made during the first ten or twelve years, sacks of almost every conceivable combination of width, weight and count which are capable of weaving on jute looms have been made by mills in India. The names and description of bags, which constitute the bulk of sacking production, are given below.

• TABLE IX
*List of Standard Sacking Bags
sold by Indian Mills¹*

Description	Size of hemmed bags	Weight	Count	
			Porter	Shot
		lb.		
Double Warp Heavy				
Cees	40" x 28"	2.25	8	9
Flour Bags	56" x 28"	2.5	8	8
Potato Bags	38" x 24"	2.5	3	7
K. Bags	40" x 28"	1.87	6	8
Nitrates	33" x 24"	1.57	8	8
'E' Bags	40" x 29"	1.75	5	8
Twill 'A' Bags	44" x 26"	2.62	8	9
'B' Bags	44" x 26½"	2.25	6	8
Daira	42" x 29"	2.5	8	8
Cuban Sugars	48" x 29"	2.5	8	8
Australian Cornsacks	41" x 23"	2.25	8	9
Ore Pockets	30" x 20"	1.5	8	8
Egyptian Grainsacks	60" x 30"	5	6	8
Woolpacks	54" x 27" x 27"	11.25	8	9
Cement Bags	31" x 22"	1.5	8	8
Salt Nitrate	35" x 26"	1.37	6	8

1. An exhaustive list is given at Appendix E.

126. (b) *Hessians*—The possibilities of hessian cloth were slow in being recognized in overseas markets. In a few countries, however, hessian bags, i.e., brans, wheat pockets and cotton packs, were freely dealt in ; but, in the case of hessian cloth, Dundee enjoyed a virtual monopoly in the most important consuming centres for many years. That hessian production in India was not taken up seriously until late in the nineteenth century is borne out by the fact that in 1885—i.e., twenty-six years after the first power mill was opened—there were only 1,800 hessian looms out of a total of 6,700. America was first to recognize the quality of Indian hessian, and from about 1890 she began to take fair quantities of this fabric. This stimulated production and encouraged mills in India to increase the number of their hessian looms. South America was the next to show interest in Calcutta hessian, and the heavy demands of this market resulted in a steady increase in hessian machinery. In course of time, the output of hessian surpassed that of sacking—a state of affairs which still continues.

127. The standards of hessian cloth were first created in Dundee, having been evolved from those in force in the linen and cotton trade. The two basic standards then in force—they apply even now—for ordinary hessian were :

- (1) cloth weighing 8 oz. for one yard, 40 inches wide—9 porter and 10 shots per inch, and
- (2) cloth weighing 10½ or 12 oz. for one yard, 40 inches wide—11 porter and 12 shots per inch.

There are many slight variations of sizes required for different purposes, but practically all cloth made in India is based on the above standards. For instance, when mills sell hessian for forward deliveries, it is customary for their contracts to contain a clause whereby the buyer has the option of taking his goods in alternative weights and widths, the latter being from 36" to 54" on the basis of the standard fabric bought. Bags made from hessian cloth form an important item of manufacture. As mentioned earlier, these are used as containers for lighter classes of produce. Sandbags, for defence purposes, are also made of hessian, and the present war has created a notable demand for them, which has largely been satisfied by the Calcutta mills.

128. (c) *Canvas*—The manufacture of canvas was first taken up by two of the older European controlled mills—Gourepore and Barnagore—which were followed by others. Jute canvas is prepared from both white and *tossa* fibre and, if required, it can be processed to make it rot-proof or water-proof. The standards given below do not include the many specialities to which this class of production lends itself and a fairly large business is done in sizes, counts, and weights other than those recorded.

TABLE X
Standard Canvas Sizes

	Width	Weight	Porter & Shotting	Optional widths
Jute Canvas	37"	20 ozs.	16 x 18	36" to 48" weight in proportion to the standards quoted.
"	37"	20 "	16 x 20	
"	37"	24 "	16 x 16	
Tossa Canvas	37"	19 "	20 x 20	

6. ROPES & CORDS.

129. (a) *Cottage industry for rope and cord making*—The use of raw jute for making ropes and cordage for domestic consumption is more or less confined to the areas where jute is widely cultivated, i.e., Bengal, Bihar and Assam. A survey of the cottage industries of the provinces undertaken in 1929 by the Department of Industries, Bengal, revealed that jute rope and cordage making is a common spare time occupation in several parts of the province where it helps to augment rural incomes. The twine and ropes thus produced are in most cases consumed locally by householders, tradesmen and fishermen for general binding purposes, but a small quantity of the finer qualities is sent to Calcutta and larger upcountry stations for sale in the markets. To prepare cords of any type, the worker first selects a few strands of jute and attaches them to a wooden pin which has a round base about three inches in diameter, locally called a *takku*. By manipulating with his hands, he makes the *takku* revolve, and feeding the fibre strands evenly on to it produces a twisted yarn.

130. In general, hand spun yarn is not so regular in weight or density as that made by mechanical means, but a skilled hand spinner can, when necessary, produce jute thread of extreme fineness and uniformity by this primitive method. In certain areas, e.g., Hooghly and Howrah, it was reported that yarn is given a coarse dressing of rice starch which has the effect of smoothing down the natural hairiness of the fibre and stiffening it. Cordage of three, four and five ply made from the *takku* spun yarn is strong and gives excellent service. This is usually made on a hand-operated machine, which has a single spindle on to which are drawn the required ply or number of individual strands. Ropes are made on a bamboo frame into which are fitted two wooden rollers. Jute is led to the upper pin and a continuous

revolving motion is set up by an operator pulling on a rope, interlaced in the rollers. The ropes vary in weight and length, depending on the uses for which they are made. It is not possible to form any estimate of the quantity of fibre used for rope making by the methods described above, as it is almost entirely a domestic industry and no records of any description are available to show either the number of people engaged in it or the quantities they produce. It was reported, however, that a labourer can spin about 2 lb. of fibre per day, but this is no guide to indicate the total quantity of jute used. Nevertheless, it may be concluded that this cottage industry accounts for only a negligible proportion of the jute crop.

131. (b) *Products of rope works*—The large rope-making factories use only small quantities of jute. Enquiries conducted in this connection revealed that for the purposes of rope-making, jute does not mix well with hard fibres, such as sisal and hemp; and, being softer, it cannot stand the heavy strain of general haulage. Small quantities—not amounting to more than a few thousand maunds a year—are, however, used in the form of rope for caulking the seams of wooden country boats, and also for packing pipe joints. During the last European war (1914-18), large quantities of jute rope nets were used as fodder containers for army use, but no demand of this nature has so far come forward during the present European conflict.

132. (c) *Rope for jute and gunny bales*—All *kutcha* and many *pucca* bales are bound with hand made jute ropes. At baling presses, a section is set aside for the purpose of rope-making and it is customary to employ old men and boys for this work. The manner in which ropes are prepared has already been described. Ropes meant for *kutcha* bales are about one inch thick, fifty to sixty feet long and weigh from four to five pounds. For *pucca* bales, they are generally of a harder twist, have greater length and weigh from five to six lbs. Gunny bags packed for delivery to Indian consumers are sometimes bound with jute ropes. These are customarily hand made in the manner noted, but a few mills have twisting machines on which ropes can be made from heavy rove yarn.

D. MANUFACTURE OF SUPERIOR CLASSES OF JUTE FABRICS

133. *General*—Until a few years ago, with the exception of three European mills which have for long produced high grade canvas and superior hessians, little or no effort had been made in India to manufacture cloth other than for bags or hessian of ordinary weights.

One or two enterprising firms, however, sought to extend the scope of their manufactures by blending jute with cotton yarns, and obtained encouraging results. Others went in for superior quality production in hessians and canvas, rugs and carpets, water-proofed cloth, roofing fabrics, linoleum hessian, union fabrics, etc., which had not been attempted formerly in this country. With the commencement of the second Great War, the experience gained in making these specialities was turned to good effect, and fairly large orders for war purposes were placed for materials which, only two or three years ago, mills here would have considered beyond their ability to manufacture.

134. The most notable of the new fabrics and specialities now being produced are:—

1. *Rugs & Carpets*—The first jute rugs in mixed colours were made on ordinary sacking looms by a European controlled mill in 1932. This attempt met with considerable success and soon a number of Indian owned mills took up the manufacture of jute rugs, but it appears that the prosperity lasted a short time only. Three of the mills, including the European, ceased production, but the fourth which had wisely gone ahead ordered special carpet looms from Scotland and after their arrival commenced to manufacture superior jute rugs of attractive design and colour. However, only a moderate success was achieved, and the business languished until recently when another enterprising Indian concern installed some Jacquard carpet looms, working both cotton and jute yarns. A fine rug is now being produced, and is gaining popularity throughout India.

2. *Waterproof cloth*—Much of the success that is now attending the efforts of the two or three European mills, which undertook this process two years ago, is due to the work of the research department of the Indian Jute Mills Association and the experiment conducted privately at two of the large mills. A keen demand had developed for proofed jute cloth, and recently fairly large war orders have been received for this type of fabric. Such specialities appear to have a definite future in the jute trade.

3. *Roofing fabric*—Only one large mill has taken up the manufacture of roofing fabric from jute tow and waste, yet they have not received a full measure of success in their enterprise. This thick heavy fabric makes first class insulation for roofs of all kinds and the demand for it is likely to grow when greater supplies are available.

4. *Linoleum Hessian*—For years, this fabric has been a monopoly of Dundee. It is made almost entirely of *tossa* jute, and when taken up first in a large European mill presented the management with considerable technical difficulties. Special looms are required for this

work, having 72" to 84" reed space with mechanical attachments capable of forming a roll of cloth about two thousand yards long. However, these obstacles were soon overcome, and it is understood that now another mill has entered this field of production. It would appear, therefore, that the manufacture of linoleum hessian has become a permanent feature in the jute industry of Calcutta.

5. *Union fabrics*—In India, cotton is the only fibre that has so far been woven successfully with jute. It is some years since this was first attempted and it was looked upon as a revolutionary process even though the blending of jute with cotton, flax and even silk has been regularly done on the Continent for many years. It was a European mill which first took up this line seriously, and for some time enjoyed a moderate success by producing soft furnishings in attractive colours and designs. War requirements have, in the meantime, eliminated the trade in fancy goods of this nature, but the experience gained in their production has proved invaluable in meeting demands for fine count union fabric composed of cotton warp and jute weft for portable water tanks, anti-gas caps, tarpaulins and carriers of several types for the army.

6. EXPERIMENTS NOW IN PROGRESS TO FIND NEW USES FOR RAW & MANUFACTURED JUTE.

135. During the last three years, the Indian Jute Mills Research Department has contributed largely to the mills' efforts to find new uses for jute, both in its raw and manufactured state. Experiments have been carried out in evolving new types of fabrics and particularly in the treatment of hessians to make them capable of a wider variety of uses. Experiments have also been carried out on the cottonizing of jute and in the production of fine jute and woollen blankets. These new lines of manufacture have distinct possibilities in the future, and the mills should follow the lead given by their research department. Several large concerns also have privately tackled the problem of improving the quality of production by erecting laboratories and engaging the qualified technical staff. Further, the Indian Central Jute Committee have decided to extend their technological research activities at Tollygunge (Calcutta) with a view to finding new uses for jute which, it is hoped, will increase the consumption of the raw material. Thus, it will be seen that the trade in general is awakening to the necessity of gaining new markets for types of fabrics which so far were considered to be specialities. There is reason to believe that there will be an increasing demand in the future and that these goods will become a regular feature of Calcutta mills production.

E. MANUFACTURING COSTS

136. As in all other industries, the aim of the jute manufacturers is to produce goods at the lowest possible costs consistent with the maintenance of a high standard of quality. Due to a variety of reasons, however, there are wide variations in the production charges of the jute mills; consequently, it will not be correct to regard the manufacturing costs of a particular mill as representative of the whole industry. Apart from a natural rise or fall in the general costs, resulting from the changes in working hours in the industry itself or the variations in the output, the composition of each mill in regard to the percentage of hessian and sacking looms, the rates of wages, expenditure on maintenance of plant, type of agency, i.e., European or Indian, and above all, the class of jute required and the average price of all fibre held and purchased, are regulating factors in the cost of manufacture. All mills calculate these expenses in the same manner, that is, by working them out on the basis of the cost of manufacturing, baling and delivering one ton of goods. At the time of selling, the market price for fabrics, i.e., the quoted rate per hundred yards of cloth or per hundred bags, is converted to its tonnage equivalent, thus enabling the manufacturer to compare the market rates with his actual costs.

I. COST OF JUTE.

The raw material costs vary considerably in relation to the type of fabric to be manufactured. In the case of sacking, low grades are used, and in hessian the finer qualities of raw material according to the quality of cloth desired. The price at which a mill batches its jute is one of the most important individual figures in the make up of its manufacturing costs. In some mills, the actual cost of the batch over a number of years works out at the average price at which jute was purchased. But other groups do not follow this system and work, year by year, strictly according to the actual cost of purchases, without adjustment in any form. In all mills, however, the average cost of stocks held is worked out daily, taking into account the price and qualities of each grade of jute imported and of that issued for production. The weighted average price for each grade or standard of quality is first calculated and from that the average price of the whole stock worked out at a rate per maund.

2. WORKING CHARGES.

In the usual mill practice it is customary to include all costs, excepting jute, under the head of working charges; and, as will be seen from the following, this embraces a variety of items.

- (a) *Establishment*—includes salaries and wages paid to all employees, and forms the largest single item of expense under working charges.
- (b) *Power plant*—electrical or steam—includes the cost of electric current, in mills equipped for this type of drive, and coal, both for generating power and in processing, together with the cost of maintaining equipment.
- (c) *Oil*—for batching and general lubricating.
- (d) *Stores*—(i) manufacturing—which includes starch, selvedge cotton, baling hoops and buckles, etc.
(ii) general mill stores, i.e. bobbins, sliver cans, mechanical spares of all descriptions.
- (e) *Transportation of goods*—embracing the upkeep of fleets of launches and boats and necessary railway and trolley equipment, or, when a mill does not own a fleet as above, maintenance of motor transport or payment for delivery services to contractors.
- (f) *Jute handling charges*—costs incurred in the import of raw fibre, its storage and subsequent issue to the mill.
- (g) *Welfare establishment*—labour organizations, hospitals and children's crèches, grocer's shops run for the benefit of workers, pensions for Indian workers.
- (h) *Miscellaneous charges*—(i) Managing Agents' allowance to cover office rent and establishment in Calcutta, (ii) gunny brokerage on sale of jute fabrics, (iii) interest on loans taken from banks to meet cost of jute purchases, (iv) insurance of buildings and machinery, stock of raw and manufactured jute, and all other charges incurred on account of administration.

F. CONSUMPTION OF JUTE BY MILLS

I. QUANTITATIVE.

137. *General*—Figures for the consumption of jute by all mills in India are not readily available, the only data published in this connexion being in respect of mills reporting to the Indian Jute Mills Association. A number of mills, both in Bengal and other provinces, do not report this information to any authority and it is regretted that the efforts of the Marketing Section of the Committee were of no avail. The following figures indicate the quantities consumed by these mills, and have been calculated on the basis of their looms and hours of working. A more reliable method of calculating consumption is on the basis of reported production, but definite production figures are available from 1932 only.

TABLE XI.

Estimated Consumption of Jute by Mills in India¹

Year	Consumption		Working hours of mills within the membership of the Indian Jute Mills Association
	Bales (1000)	Tons (1000) ^a	
1919-20	5,300	945	
1920-21	5,680	1,014	54 per week
1921-22	4,450	794	" " "
1922-23	4,870	868	" " "
1923-24	5,250	937	" " "
1924-25	5,800	1,035	" " "
1925-26	5,450	973	" " "
1926-27	5,850	1,044	" " "
1927-28	5,850	1,044	" " "
1928-29	6,000	1,070	" " "
1929-30	6,350	1,134	60 per week
1930-31	4,600	821	54 per week with one week per month closed. 40 per week with 15% looms sealed.
1931-32	4,700	839	" " "
1932-33	5,082	908	" " "
1933-34	5,081	907	" " "
1934-35	5,414	967	40 per week with 15%, 12½% and 10% looms sealed. (looms were gradually unsealed)
1935-36	5,894	1,053	40 to 54 per week (the remaining looms were gradually unsealed).
1936-37	7,060	1,261	50 to 54 per week.
1937-38	7,542	1,347	54 per week (no restriction)
1938-39	6,563	1,172	54 to 45 per week (with exceptions)
1939-40	7,470	1,334	40 to 60 per week.

1. The estimated consumption for years prior to 1932-33 represents the sum of the actual consumption of Association mills (vide Annual Reports of the Association) and the calculated consumption of outside mills according to their probable loom strength, while the consumption during 1932-33 to 1939-40 has been treated as identical to the output of all mills in India, figures of which are published in the 'Monthly Statistics of Production of Certain Selected Industries in India, [Government of India publication].

2. Tonnage calculated at 5.6 bales per ton.

138. The principal factor which regulates quantitative consumption is naturally the volume of expected demand for finished goods. From 1934 to 1939, when industries throughout the world were recovering from a long period of depression, the production of jute goods followed the rise in demand, thereby necessitating increased consumption of raw fibre. In 1937-8, the amount of jute used by mills in India reached new levels, exceeding by a wide margin the quantities actually required to meet world offtake of manufactures. The direct cause of this over-production in fabrics was the abandonment in 1936 of the short time working policy which had been followed by members of the Indian Jute Mills Association for many years. This departure from controlled to uncontrolled working was forced on the Association under circumstances already described in Chapter II of this report, and its results may be seen in the consumption figures of 1936-7 and 1937-8, i.e. 1,261,000 and 1,347,000 tons respectively. Early in 1938-9, the demand for fabrics became less ; this factor, combined with the serious over-production of Indian mills, led to the accumulation of stocks of finished goods, both in this country and abroad. Consequently, the prices slumped, and the position of the trade becoming critical, the Association once again introduced a short time working agreement for its members—jute consumption dropping in proportion to the reduction in working hours. In the first four months of the second World War, heavy orders for sandbags and other materials, coupled with a keen demand from overseas, made it necessary for mills to work to the limit of single shift capacity, thus, reaching a new peak of consumption. The momentous happenings of 1940 and their effect on the jute industry have been recorded elsewhere. It may be stated that from early in that year, conditions were such that mills were compelled to adopt a short time working policy which was as severe as at any period during the depression of 1930-35.

2. QUALITATIVE.

139. (a) *Calcutta mills*—A record of the various qualities and grades of jute used for the manufacture of the ordinary classes of hessian and sacking products was obtained in the course of an enquiry at a number of mills in the Calcutta area, and also in Bihar and the United Provinces during 1939 and 1940. The loom strength of the Calcutta mills visited, represented approximately 17 per cent. of the total in India, and their production of hessian in proportion to sacking was roughly 36 to 64 per cent. On the basis of the classification adopted by Messrs. The Bemis Bag Co., 2 were 'A' group mills, 3 of 'B' group and 3 in 'C'. The data, thus collected, are recorded in the following statement, in which, for the purpose of illustration, the

TABLE XII.
*Qualities of jute used in manufacturing
 Hessian and Sacking fabrics*

Locality from which the fibre was obtained	Fibre used		Types of fabrics produced	Percentages of grades used for the production of hessian batches
	Quality	Percentage		
'A' Group Mills				
East Bengal	Jat White	51.75	Hessian 9 porters 7½, 8 & 9 oz. 11 porters 10½ oz. Both types in various widths.	Top 9.0 Middle 60.5 Bottom 30.5
-do-	District White	44.75		
Assam	-do-	3.50		
East Bengal	Jat White	20.75	Sacking B. Twills, Liverpools, Corn sacks, A. Twills, D. W. Flour bags. Heavy Cees & Cuban Sugar bags.	
-do-	Jat Tossa	9.00		
-do-	District White	22.00		
-do-	Dowrah & Jungli White	27.75		
	Baled cuttings	20.50		
'B' Group Mills				
East Bengal	Jat White	47.50	Hessian 9 porters 7½ & 8 oz. 11 porters 10 & 10½ oz. in various widths.	Top nil Middle 57.0 Bottom 43.0
-do-	District White	38.50		
-do-	Jat Tossa	2.50		
North Bengal	District White	7.00		
Assam	-do-	2.50		
Daisee	-do-	2.00		
East Bengal	Jat White	13.50	Sacking Heavy Cees, B. Twills, D. W. Cement, Liverpools & Cuban Sugar bags.	
-do-	District White	49.25		
North Bengal	-do-	7.00		
East Bengal	Dowrah	2.00		
West Bengal	Jungli	2.00		
Assam	District White	4.00		
	Baled cuttings	22.25		

Locality from which the fibre was obtained	Fibre used		Types of fabrics produced	Percentages of grades used for the production of hessian batches		
	Quality	Percentage				
'C' Group Mills						
East Bengal	Jat White	51.50	Hessian 9 porters 7½ & 8 oz. 11 porters 10 & 10½ oz. in various widths	} Top 4.00 Middle 46.00 Bottom 50.00		
-do-	District White	42.50				
North Bengal	-do-	6.00				
East Bengal	Jat White	15.00	Sacking Cornsacks, Liverpools, B. Twills & Cuban Sugar bags.			
-do-	District White	38.00				
-do-	District Tossa	9.00				
West Bengal	Jungli	5.50				
Assam	District White	7.00				
	Baled cuttings	25.50				

number of bales issued has been calculated according to the percentage of each quality they represent. An important consideration in this connexion is the large scale infiltration of jute from inferior to superior quality producing areas, *i.e.* from North Bengal and Assam to 'Jat' and 'Good District' areas of East Bengal. As a result, many of the bales issued, though packed in East Bengal centre, contain a fair amount of fibre grown in areas which come within a different quality classification. The extent of this infiltration has been estimated by various trade sources at ten to fifteen per cent. of the East Bengal crop. This matter was fully discussed in the first Marketing Report issued by the Indian Central Jute Committee. The statement may, therefore, be read subject to that qualification. From the above figures it will be seen that in the eight mills visited, East Bengal provided approximately 76 per cent. of the long jute issued for batching when the investigation was undertaken, of which only about four per cent was tossa. Only 3.5 per cent. of North Bengal fibre was used, about

the same amount of the soft broken jute classed as 'Jungli', about 2.5 per cent. of coarse 'Dowrah', a similar quantity of Assam District and the balance, approximately 12 per cent., was made up of baled jute cuttings.

140. (b) *Mills outside Bengal*—Mills outside Bengal consume large quantities of the jute produced in the provinces in which they are located. For instance, the bulk of the fibre consumed in Bihar mills is of the soft 'Northern' quality grown in Purnea, the harder and stronger jute of East Bengal being mixed in limited quantities to give the warp yarn strength and body. These mills confine their manufactures to sacking products only, which are of the more common types, such as B. Twills, Liverpools, A. Twills and Double Warp Flour Bags. Thus, there is no need for them to spin yarn below ten or eleven pounds per spynle, as against eight to nine pounds in the case of ordinary hessians. Mills in the United Provinces use the entire crop produced in that area, roughly about seven thousand tons. It is poor fibre of a quality comparable only to the low grade jute grown in Murshidabad in West Bengal. They also take fairly large quantities from North Bengal and Bihar. One mill located at Cawnpore manufactures some fine hessian and a little canvas, as well as ordinary cloth and bags. For the production of the former, it imports 'Jat' (white and tossa), and also some good 'District' quality from East Bengal. In Madras, the principal mills, which produce both fine and ordinary hessian and sacking, take a fairly large percentage of their requirements from East Bengal, both of 'Jat' and 'District' qualities. They also take selected lots from the North Bengal districts and Bihar. An appreciable proportion of their total consumption is made up of jute grown in Orissa, which, although it has good spinning properties, is of inferior colour and is generally heavily rooted. These are the only mills using this fibre.

G. INDIAN MILLS' TOTAL PRODUCTION OF JUTE GOODS OF ALL TYPES

141. *General*—Information relating to the mills' production of jute goods is available only from the year 1932. Prior to that, no production figures were published either by the Indian Jute Mills Association or the independent mills. In fact, the statistics now available, owe their origin to a request made by the British National Committee of the International Chamber of Commerce, London, to the mills in India in 1930 that industrial production statistics should

be compiled on a uniform basis. The Mills Association has since published figures submitted by members and a few outside mills which report such statistics to them. It is understood that mills outside Bengal supply such information direct to the Department of Commercial Intelligence and Statistics. In connection with the subject of statistics it may be stated here that, in general, the statistical data available concerning all sections of the jute trade are, to say the least, incomplete and in many ways unreliable. No genuine effort appears to have been made at any time to prepare complete records for the whole trade, showing the production, movement, and consumption of raw jute and manufactured goods.

142. An exhaustive enquiry was conducted on this subject by the Marketing Section of the Indian Central Jute Committee, during which, every available publication, in which jute trade statistics are reported, was examined. It revealed that only in the respect of exports, calculated from the Customs returns, the figures could be considered fairly complete. As has been already said, mills' consumption and production data are available only from 1932, but they lack accuracy as it is known that several mills do not supply full information, while others do not report at all. Details of goods consumed in India are published in respect of deliveries from Calcutta mills to up-country markets, as well as goods made by mills in provinces other than Bengal, and despatched to markets outside the various provinces. No data are available for goods produced and used within any one province. The above fact should be borne in mind in studying the statistics that have been used in this Report. They have been mostly compiled from available trade and Government sources.

I. QUANTITIES AND TYPES OF GOODS MANUFACTURED.

143. A table is given below setting out the reported quantities of jute manufactures in tons, yards and pieces for all types manufactured during the period 1932-3 to 1938-9, which covers the world trade depression and the subsequent years of slow—though steady—recovery. In this table the average yearly production according to types has been computed for the above period of 7 years. It will be noted that sacking bags and cloth amounted to 610,793 tons, or 56.6 per cent. of the average weight of goods manufactured. Hessian accounted for 414,723 tons, or 38.4 per cent. Canvas production was 1,938 tons, or 0.2 per cent. only. Ropes and twine manufactures were 4,188 tons, i.e. equivalent to 0.3 per cent.; while twist and yarn produced for sale in India and abroad reached the appreciable weight of 46,344 tons, or 4.5 per cent. of the average yearly outturn.

TABLE XIII.
*Jute Goods Production in India**

Description	1932-33	1933-34	1934-35	1935-36	1936-37	1937-38	1938-39	Average
Twist and Yarn—tons	36,024	41,238	44,035	42,289	51,859	53,933	55,033	46,344 tons
Manufactures								
Canvas—tons	912	1,134	1,599	1,337	2,074	3,080	3,428	1,938 tons
yds.	1,711,712	2,064,381	2,835,305	2,373,708	4,044,081	6,413,019	6,983,753	3,775,137 yds.
Gunny Bags—								
(a) Hessian—tons	36,221	41,500	45,947	49,498	64,243	60,388	62,622	51,488 tons
Nos.	79,279,401	90,461,562	98,160,325	108,229,077	141,194,696	142,430,513	165,345,545	117,871,588 Nos.
(b) Sacking—tons	543,459	512,806	540,146	561,126	639,775	668,476	618,885	583,525 tons
Nos.	521,516,289	488,196,667	521,285,803	547,348,961	616,772,565	655,830,837	607,874,832	565,546,565 Nos.
Gunny Cloth—								
(a) Hessian—tons	260,867	280,565	288,893	328,151	457,893	488,651	437,629	363,235 tons
yds.	982,105,688	1,065,548,595	1,101,506,432	1,271,284,540	1,762,589,445	1,875,393,171	1,701,968,349	1,394,342,317 yds.
(b) Sacking—tons	22,013	24,744	25,748	25,296	30,082	31,743	31,254	27,268 tons
yds.	48,537,423	53,405,947	56,405,089	54,865,044	67,616,040	76,432,771	71,942,140	61,314,922 yds.
Other manufactures (including rope and twine) —tons	3,140	4,056	3,452	3,466	7,187	5,387	2,631	4,188 tons
Total								
tons	902,636	906,043	949,820	1,011,161	1,253,113	1,311,658	1,221,482	1,079,416 tons
yds.	1,032,354,824	1,121,018,923	1,160,746,826	1,328,523,292	1,834,249,566	1,958,238,961	3,479,508,285	1,702,091,525 yds.
Nos.	600,795,690	578,658,229	619,446,128	655,578,038	757,967,261	798,261,350	773,220,377	683,418,153 Nos.

*All figures are for fiscal year of twelve months from 1st April to 31st March.

2. AVERAGE DAILY PRODUCTION OF REPRESENTATIVE FABRICS.

144. The method by which the speed and production of a loom is reckoned has already been described earlier in this chapter. The number of shots of weft per inch is the principal factor in determining the yardage produced in a given working period—cloth of the finer counts naturally takes longer to weave than ordinary fabrics. Following is a series of records of the average length and weight produced in ten working hours for several representative fabrics.

TABLE XIV.

Types of fabrics	Porter	Shots	Length in yards	Weight in pounds
Hessian				
40" wide 8 oz. per yard.	9	10	220	110
40" " 7½ oz. " "	9	9	226	106
28" " 8 oz./40 " "	9	10	244	78.5
36" " 7½ oz./40 " "	9	9	226	95.5
40" " 10½ oz. " "	11	12	174	108
36" " 10 oz./40 " "	11	12	176	99
45" " 10 oz./40 " "	11	12	168	108.5
54" " 8 oz./40 " "	9	10	176	119
Sacking				
Plain Double Warp 28" 15.6 oz. per yard	8	3	284	277
B. Twills 26½" wide 12.24 oz. per yard	6	8	282	251
Cornsacks 23" wide 15.25 oz. per yard	6	9	252	240
Cuban Sugars 29" wide 14.5 oz. per yard	7	9	264	239
A. Twills 26½" wide 15.82 oz. per yard	8	9	254	251

H. QUALITY CLASSIFICATION

145. *General*—There has never been any attempt by the mills in India to classify their manufactures in any way which would indicate to buyers that certain mills consistently produce better quality goods than others. As far back as 1936, many overseas consumers refused to accept the manufactures of certain mills owing to the inferior quality or irregularity in weight of deliveries. Generally speaking, individual cases of 'barring' had little or no effect on manufacturers, who could always find buyers for their entire output irrespective of faulty weights, poor weaving, inferior packing, etc. With the progress of time, however, conditions, both of trading and manufacture, have undergone considerable change. The gunny shipping trade has become extremely competitive, calling for a higher all-round standard of manufacture—mechanical efficiency has increased, labour is more competent and the mills now exercise a greater degree of supervision during the actual process of manufacture than was considered necessary thirty or forty years ago. Yarn and cloth weights have become matters of major importance, the improved quality of yarn has contributed largely to a great improvement in weaving and, in general, the level of production has been raised far above that prevailing early in this century. The system of 'barring' certain makes of cloth and bags has, however, continued and many of the large fabrics consuming houses throughout the world buy according to their own selection of approved manufactures only.

I. HESSIAN.

146. The most notable firm dealing in jute fabrics is the Bemis Bro. Bag Co. of Boston, U.S.A. This concern has built up a very large burlap and bag distributing business and, with it, a system of hessian cloth classification which is recognised in the gunny buying trade as scientifically accurate and impartial. As one of the largest buyers, it operates in the Calcutta market through practically all reputable shippers and, for their guidance in making purchases on its (Bemis's) behalf, issues a list annually in which the Indian mills are grouped according to the quality of their production of light and heavy weight hessians as assessed by examination at all the Bemis Bro. receiving and inspection plants situated throughout North America. It is regretted that neither the process of assessing qualities nor the grouping list can be included in this report as both are considered to be confidential. However, this firm's importance as jute goods dealers may be gauged from the fact that the latest list contains the names of almost every mill in India. The value of its system is recognized throughout the world. In South America, the United Kingdom, Australia and other countries, buyers specify their purchases according

to Bemis's grouping. The majority of manufacturers in India realize the importance of this enterprising concern's method of classifying production, and make efforts to maintain or improve their position in the grouping list, but one or two groups refuse to sell on the basis of Bemis's classification, holding out for full market rates for mills listed as C or even D. Price differences between various groups laid down by the Bemis Bro. Bag Co., change from time to time.

2. SACKING.

147. There is no system of grouping for sacking which can be compared with Bemis Bros.' quality classification of hessian. Whereas for hessians there are comparatively few standards of widths and weights, the number of sacking products is numerous with counts varying from six to sixteen porter and five to ten shots per inch and weights from $1\frac{1}{4}$ to $11\frac{1}{4}$ lb. per bag. As with hessian, however, it has always been a custom for overseas consumers to 'bar' certain mill makes for private reasons, generally the result of disputes over inferior quality or irregularity of deliveries. Some mills specialize in a particular line of sacking production, and by producing a high grade article command a premium in certain markets. The manufactures of these mills have become an accepted feature in the consuming markets, and as long as the manufacturers maintain a consistently high standard of quality, buyers will usually be content to pay a little extra for them.

148. In Australia, the Melbourne Wool-Brokers Association decided to take steps to classify woolpacks handled by them in order that particular mill makes could be placed into groups, thus enabling members to buy with greater confidence in the Calcutta market. It is understood that representative selections of various mills' packs were inspected by a special Committee of the above Association and from the results of this examination, coupled with the wide knowledge of the Committee regarding the general average of quality known to be produced by the mills which normally catered for this market, the members drew up a list which grouped Indian mills as follows:—

A	Group	Seven mills
B	„	Twelve mills
C	„	Two mills
D	„	One mill.

The grouping is revised annually in accordance with the Wool Association's findings at inspections of imports made throughout the year, but Calcutta shippers report that little importance is now attached to this quality classification. Apart from the above, no organized attempt is made by any individual firm or trade association to classify sacking products according to the quality of individual mill makes.

CHAPTER IV

THE MARKETING OF JUTE PRODUCTS

A. FUNCTIONARIES IN THE TRADE

149. *General*—With the introduction of the power loom, the industry entered a new phase. The speed of production multiplied itself many times over within a year or two, and, although the hand made bags and cloth were of superior quality during the earlier years, they were gradually swept from the market by mass production methods which could turn out fabrics at a much cheaper price. Within a few years, mills production exceeded the Indian demand by a large margin. New markets had to be found and naturally these were sought in countries where Dundee had introduced jute fabrics and created a demand for them. As already said in a previous chapter, the first known consignment of Indian mill made goods was sent to England in 1868, when a lot of 2½ lb. Twill Bags was consigned to a firm of gunny merchants. On arrival, however, they were condemned and rejected out of hand by the buyers, owing to their irregularity of weight and inferior workmanship. Rather than take them back, the manufacturers accepted a cut in price of £1 sterling per bale. Nevertheless, frequent enquiries from other countries were received, generally through firms dealing in the export of foodstuffs and other commodities. A number of direct enquiries were also made from the mills, or their agents in Dundee passed on offers, so that by 1875 there was a fairly well established gunny buying and shipping trade. The assault on Dundee's overseas markets was a fairly systematic one. For example, mills manufactured and stocked large quantities of bags of the size required for the Australian corn and wool crops, or for the coffee crop of South America and, when the seasonal demand for these goods materialized, the mills in India were generally in a position to meet it at lower prices than those of Dundee. This policy proved successful, and as the competition became keen, the Dundee manufacturers ultimately withdrew entirely and, in fact, have never attempted to regain the lost markets.

150. During the following years, the continued expansion of the industry in India necessitated fresh and greater outlets, and once again the Calcutta mills turned to the markets which were till then the preserves of the Dundee manufacturers: this time, they were interested in hessian cloth. The manufacture of hessian had been a monopoly

of the Scottish town for at least forty years and its principal outlets lay in North and South America, Australia and the Continent. Purely from the point of quality, the Calcutta made hessians were not comparable to those produced in Dundee, but the lessons received by Indian manufacturers through the rejection of their goods and the payment of claims, were well learnt, and by 1890 such improvement had taken place that hessians began to assume a greater importance in the export lists than sacking and gunny bags: this state of affairs has continued ever since. Although the Dundee or Continental mill products have not been entirely ousted from the important North and South American markets, the Calcutta mills have established a quantitative ascendancy over them which is not likely to be challenged in the near future. This expansion in India's exports is mainly due to the merchants who brought to the notice of their overseas agents and business friends throughout the world the possibilities of using jute fabrics for packing goods, and for other purposes.

151. In the Calcutta market, there are five types of merchants dealing in jute fabrics.

1. *The shipper or gunny exporter*—he buys and sells strictly according to the orders he has secured from overseas buyers.
2. *The speculative dealer or shipper*—he buys and sells in the Calcutta market, working on margin and at the same time conducting a genuine exporting business.
3. *The bazar speculative merchant*—he buys from mills for forward deliveries, hoping to unload at a profit to shippers or to other bazar merchants.
4. *The broker dealer or jobber*—he is an intermediary who conducts a gunny broking establishment, but at the same time buys or sells in accordance with his views of possible fluctuations in market rates.
5. *Broker*—acts as such between gunny shippers, bazar dealers and mills.

I. JUTE FABRICS SHIPPERS.

152. Until about 1900, there was only one class of merchant to whom mills sold their products. This was the 'shipper' and, in practically all cases, the orders were for export on specified dates. The contract terms were honoured and delivery duly taken on the day stipulated, or at least as soon as shipment could be effected. At that time, it was the overseas buyer who took the initiative with regard

to putting forward enquiries and offers. These were received by cable and it was for the shipper to circulate them to the mills through various brokers. If the consumers' offers were attractive and mills were agreeable to sell at those rates, business was concluded forthwith and the consumer advised accordingly. But, if business was not possible at the price quoted, the best counter offer obtainable was cabled to the consumer, generally in the form of a *firm offer*, i.e., an offer binding on the mill for a period of twenty-four hours irrespective of the state of the market. The bulk of business was done by this method and, as will be seen, the export merchant's risks were nominal and they were content to carry on trading at a reasonable rate of commission.

153. Early in the present century, however, a new feature in gunny trading began to make its appearance. Some Marwari merchants saw prospects of good profit in buying certain classes of goods and holding them until heavy demand caused a rise in prices. Accordingly, they commenced their operations by buying from mills and selling to shippers as soon as they considered that a reasonable profit had materialized. This was the beginning of large scale forward selling by mills, a system which is now a regular feature of trade in gunnies. The Marwari merchants were in a position to furnish ample cash security for any business contracted; consequently, the mills had no hesitation in dealing with them. The weight of business contracted in this way was not heavy during the early years, but the advent of the war of 1914-18 provided golden opportunities for speculative buying and selling and the number of bazar operators increased immensely.

154. For a number of years, this did not affect the shippers in general. In fact, in some ways they appreciated having at their disposal the opportunity of getting competitive quotations, i.e., from mills and bazar dealers, for standard fabrics, at least. However, the latter began to take up increasing quantities for deliveries extending to six and even nine months ahead, and their holdings became so heavy that they became a power to be reckoned with in the market. Many shippers, who had until then conducted their business purely on the lines of a commission agency, were attracted by the speculative possibilities offered by this trade. They were tempted to enter the field as forward buyers to prevent the bazar operators from obtaining a monopoly and ultimately cornering the trade. Gradually, they became more and more speculative in their dealings, selling forward to both overseas and local buyers if they considered the prices were liable to drop, or conversely entering into heavy commitments with mills or bazar in the hope of re-selling profitably to consumers abroad. As a result, several old established firms became involved, incurred severe losses and gave up the gunny

export business ; but others continued to trade on normal lines and, avoiding heavy speculative commitments, maintained their position in the trade. It may be considered significant that out of the 21 firms which originally joined the Calcutta Fabric Shippers Association, only 6 are now operating. Several other causes also contributed to the reduction of the number of Fabric Shippers' firms, but it is unnecessary to recount them here.

155. The position of the gunny shipper to-day differs greatly from what it was thirty years ago. Then, much of the business was done direct with the consumers' buying departments, but with the growth of the trade and increasing competition it became necessary to appoint agents in the overseas distributing centres. The speed at which business is transacted also increased and gradually it was found that shippers could not afford the loss in time caused through waiting for replies from their agents. Therefore, now the agents have to keep themselves supplied with firm offers for lots which can be closed without referring back to India. As mills and bazar dealers do not always give firm offers, this system involves the shippers in heavy market risks and considerable cable expenses. In the past, the commission of the shippers was seldom less than one per cent. of the value of the goods sold, but on account of keen competition they cannot now afford to charge more than one-half per cent.

156. Since the advent of the war (1939), shippers' difficulties have increased considerably as, apart from the regulations governing control of exchange and the difficulty in obtaining freight space, countries which normally bought fair quantities for forward delivery are now disinclined to enter into contracts which may never be fulfilled. As a result, the bulk of business, particularly since the collapse of France in June, 1940, has been for near delivery goods and on a very limited scale. Genuine shipping business has been, to a large extent, at a premium and there is keen competition to pick up any that may be forthcoming. Of all sections of the industry, the gunny exporting trade is now perhaps the most difficult to operate, being attended with the greatest trading risks.

2. SPECULATIVE DEALERS AND SHIPPERS.

157. This class of merchants is largely the product of the last World War. The highly speculative nature of the gunny trade during the years 1915 to 1920 encouraged the bold speculators to operate on large scale. Prior to 1919, no Indian firm's name appeared on the export lists, excepting in the case of trade with Burma (which was confined to one or two firms) and in a small variety of sacking fabrics.

But, with the post-war slump of 1921-22, several of the more responsible Indian houses began to operate in a small way through agents in North and South America. The actual exporting side of their business was, however, of secondary consideration to them and represented only a small percentage of the annual turnover. They kept in close touch with overseas markets, largely for the purpose of obtaining information regarding the possible trend of demand which could be of value in their local speculative dealings. Their *modus operandi* was to regulate the forward buying or selling according to their own judgment formed after considering all the known factors affecting demand, such as, the position in consuming countries, the jute crop and the possible action of mills in India with regard to the regulation of production. As a result, several would perhaps proceed to "bear" the market, selling freely for positions calling for delivery six or nine months later, while others assessing the future trend of demand in an entirely different light would place purchasing orders with mills. They could accept orders either for ready goods which they could supply from stock, or for forward deliveries if the prices quoted proved attractive enough in the light of their assessment of the future trend of the market. In recent years, these speculative dealers—shippers—have greatly increased their overseas trade, and now figure prominently in the export lists. This has been achieved largely by bearing heavier trading risks and accepting business which is turned down by firms working on more conservative lines.

3. BAZAR DEALERS.

158. These merchants may be considered the most important force in the gunny buying trade. It has been estimated by reliable trade circles that they buy approximately 75 per cent. of the mills' total production annually, yet they do not ship one yard of hessian out of the country. They act purely as intermediate dealers, having some private capital which they use for the purpose of guaranteeing their operations in the market. During the last thirty years, speculative bazar dealers have quietly but steadily established themselves and, with their ever-increasing trade, the old system of mills dealing direct with shippers has considerably decreased. The reason appears to lie in the fact that, whereas overseas consumers would not offer business for forward positions and Calcutta shippers could not or would not accept the risks of placing orders with mills, bazar dealers did so, in most cases giving the manufacturers a guarantee, either in the form of cash deposits or negotiable bonds, of their ability to take up the quantities contracted for. The deposit usually was not large enough to cover the cost of the quantities purchased, but in the case of a failure

on the buyer's part it proved sufficient enough to meet the margin between the price at which the goods had been bought and that ruling on delivery date. Every bazar dealer was not in a position to give such a guarantee, but they had in many cases the support of the broking firms which, having deposits with certain mills, were willing to accept liability for these buyers, generally passing 'principal' contracts for all business of this nature. Guaranteed from possible heavy loss, the mills were naturally glad to accept business from the bazar on these terms. It also ensured them of having sales on their books for long periods ahead, and to some extent enabled them to regulate the purchase of raw materials. The mills have reason to be grateful to the bazar merchants who maintain the demand for jute goods and provide a continuous outlet for their products. These dealers have seldom failed to meet their obligations. On the other hand, the mills have gone to considerable lengths to assist the merchants, and in innumerable cases have given them facilities far beyond the scope of the contract terms.

159. It is a fairly common practice for these dealers to have broking businesses as well and may combine both the functions when it suits them. This gives an additional advantage to their business, as in the first place they are able to keep in constant touch with price movements and secondly, they save a considerable sum in brokerage fees, the rate being twelve annas per Rs. 100. Though the majority of bazar dealers, as described above, operate in the market purely for the purpose of speculation, many have well established wholesale and retail gunny sales business, with agencies throughout India. The opening of jute mills in Bihar, United Provinces, Madras, etc., which produce goods mainly for local consumption, has affected this section of the Calcutta mills' production, rather adversely, but large business is still done all the year round by Calcutta bazar merchants in the various classes of bags and cloth consumed in India.

160. In assessing the usefulness of the speculative gunny merchant, it may be said that his operations have proved a convenient hedge for mills against their jute stocks in that they have been able to sell their manufactures for forward deliveries at times when genuine consumers were not interested. To the shipper, he provides a useful medium to draw on for competitive prices when mill rates are high or when mill policy does not permit the sale of gunnies, as for instance, in the case of a recent agreement amongst mills of the Indian Jute Mills Association whereby they agreed not to sell hessians under certain minimum rates. For over three months the market price did not attain the minimum, and all spot and near delivery business for shipment was conducted solely between shippers and bazar sellers. As against these advantages

must be set the fact that a highly speculative method of marketing jute goods, divorced from the primary considerations of genuine supply and demand must in the long run mitigate against the best interests of the manufacturing industry. Bazar dealers and their operations have, as has been said before, provided a hedging market for mills, without the safeguards which any well conducted 'futures' market provides for such operations, and the time is now already ripe to consider how far such a state of affairs is wise or justifiable. The present arrangement has met the needs of bazar and mills, but can it be considered that this will always be the case? The marketing of manufactured jute goods seems to require a drastic overhauling.

4. BROKER DEALERS (JOBBER).

161. This class of intermediary has increased in strength during the last twenty years and now many of them are registered as brokers, who also act as speculative dealers. The mainstay of their business is legitimate broking, but when they consider circumstances favourable for a good speculative deal they do not hesitate to buy or sell on their own account. All transactions of this nature are entered into by using principals' contracts, wherein only their own names appear as purchasers or sellers on behalf of some unnamed party.

5. BROKERS.

162. (a) *Jute Fabrics*.¹ The usefulness of a good broker arises from the fact that he has a complete knowledge of the qualitative and quantitative requirements of the world markets, possesses detailed information about price movements, the rates at which business has been done here and elsewhere, and of the quantities of goods shipped as well as stocks held. At the same time, he should have a good technical knowledge of the sizes, weights, count and finish of all types of fabrics. Normally, he should be able to take a view of the market and, if asked, to advise his buyers or sellers in regard to the possible future trend of prices or consumption. A good broker soon comes to know the types and classes of product made by the various mills, consequently he is in a position to direct shippers to mills which can meet their demands for particular types of fabrics.

163. The system following by European brokers is generally as follows. Having obtained the opening prices for all fabrics from their bazar under-brokers, they first call on shippers and receive any enquiries of specialities in odd widths and weights which may have been received

1. A historical account of the Jute Fabric Brokers Association is given in Chapter II, Sec. B 4, *supra*.

overnight by cable. Or, the shipper may express his willingness to enter the market as a buyer for standard goods at prices lower than those prevailing at that time. Returning to his office, the broker notes his enquiries in a ledger, together with any information he might have acquired in connexion with reported business or bazar rumours. Each member of the staff reports similarly and the collected information is noted for reference to the various mill groups on which the brokers next call. Enquiries for specialities are referred to the mill most likely to make them and the quotation is immediately referred to the shipper, who, if he considers the price to be acceptable to the overseas consumer, may ask for a firm offer, i.e., an offer binding the mill for a definite period to sell at the price quoted. Any closing business, that is, a definite buying order from a shipper or perhaps a speculative dealer, is offered at once to a mill or to a bazar speculator and if the price is acceptable, the transaction is completed then and there. Counter offers are referred to the buyer for his consideration and often, if the tone of the market indicates a rise, he accepts the business. There is no rule, however, in regard to the method a broker may employ. It may be to his advantage to ascertain first what his mills may wish to do or whether his bazar connexions are likely to be active, but the system described above is followed in most cases. It will be obvious that a broker's work can be exacting in the extreme. Continuous watch must be kept on all movements in the market, and mills and shippers must be kept informed of the transactions which might influence their operations.

164. A broking firm maintains connexion with mills, shippers and the bazar. For the purpose of establishing close working arrangements with the latter, it is customary for firms to employ Indian underbrokers, who generally possess wide experience and enjoy the confidence of the more important dealers. It is their duty to influence these speculative merchants to deal through their respective firms, to recommend to their firms the most reliable and trustworthy clients and in general to keep a close and continuous touch with that important section of the market. In several cases, the under-brokers may accept liability for merchants who deal with their firms. They may also employ assistants to keep their contacts in the bazar alive and active. Indian broking firms follow a similar procedure, but in certain respects they enjoy some advantages over the European. They have naturally closer connexion with the bazar dealer than the European brokers, and thus receive much more business. Also, they do not maintain offices on a large scale, and often several firms share one room and even a telephone. Likewise, they make no effort to keep the mills or shippers posted with statistical data which might prove of considerable value, nor do they

issue market reports. Some of the Indian firms are also content with a lower net rate of commission, which gives them a competitive advantage over their European compeers.

165. (b) *Freight brokers*—These functionaries act as sellers of freight on behalf of the various shipping lines or their agents. They cover every type and variety of goods for which shipping space is required, and by their services save much time and money of the exporters and shipping agents. Their method of working is similar in many respects to that employed by the fabric brokers. They call on the agents for the various shipping lines and obtain information regarding the dates of arrival, loading and departure of ships, the availability of cargo space and the freight rates. Afterwards, they compare notes at their central offices, so that all members of the respective firms get to know the shipping position of various lines. Later, they call on the exporters and acquaint them with details regarding shipment dates, space, etc., booking any business that might be offered, or accepting enquiries to place before the steamship agents. They also keep in constant touch with each other, either through their office or by posting a messenger at a central place and passing on news of business done or of any unexpected development that might affect the booking of freight to one country or the other. For this work, they receive a commission of one per cent. on the total freight paid for the goods actually shipped.

166. The following list, obtained from a reliable firm of brokers, shows the periodicity of cargo sailings to all countries in the pre-war (1939) days.

United States of America	Six to seven steamers monthly.
United Kingdom	Regular service of steamers—up to twelve each month.
South America	Generally one sailing a month, with special additional steamer for the River Plate, i.e. Buenos Ayres, Rosario, Monte Video, Santos and Rio de Janeiro, every three months.
Australia	Regular sailings of at least one steamer each month and more when required, particularly in the busy season, i.e. Sept/Oct. for Cornsacks and May/June for Woolpacks.
New Zealand	One regular sailing every four months, but certain transhipments from Australian steamers.

Africa & The Cape	Two steamers each month.
Near East	Regular sailings at the rate of one or two each month. Goods are transhipped at Port Said to steamers for Palestine, Black Sea Ports and the Levant.
Continent (Europe)	Most jute gunnies shipped by the German Hansa line—from two to three sailings each month.
Far East	Regular sailings by British, Japanese and American lines—three or four ships each month.

167. (c) *Exchange brokers*—These intermediaries are responsible for arranging the purchase and sale of exchange as required. In practically all cases, the shipment of goods is covered by the sale of the necessary exchange, and the services of these brokers are required to negotiate the business with the exchange banks. In general, they act as intermediaries between banks and merchants in respect of practically all financial dealings, such as arranging sale of bills of exchange, loans against documents, loans to finance business or, when required, loans from merchants to banks. Their rate of brokerage is one-sixteenth of one per cent. paid as usual, by the seller.

B. METHODS OF SALE

I. MILLS' SELLING PROCEDURE.

168. The mills' policy of buying jute and selling gunnies is, in all cases, regulated by the senior and most experienced members of the firms of Managing Agents which control the various groups. In most cases, these firms have other trading interests also, which may include loose jute purchasing agencies in the *mofussil*, jute and gunny export and shipping, etc. Occasionally, one or two members serve on the boards of large banking concerns as well. Thus, at all times, they are in the possession of the latest and most reliable information which could affect trading conditions in the various sections of the industry both in India and abroad. When considering their near and future purchase and sales programmes, the facts at their disposal are examined carefully both in their individual significance and the possible effect on trade in general. Thus, it may be considered a good policy to buy heavily in loose jute and remain out of the fabrics market, or *vice versa*. Or, again, if both jute and gunny prices are such that

a margin of profit is immediately assured, the mill might sell finished goods and buy raw material simultaneously.

169. The system of forward trading, i.e., contracting for goods to be delivered at some future date, has been a feature of the trade for many years and is carried on extensively. It is seldom that manufacturers dispose of their entire output for delivery at some forward period unless conditions are extremely favourable. They customarily sell up to sixty or seventy per cent., leaving the balance for supplying goods required for earlier deliveries. It is the endeavour of mills generally to regulate their sales in a manner which will avoid as far as possible changes in weight of yarn or size of cloth, for these necessitate alterations in three or four departments in the mills causing loss of time and production. This policy is mainly responsible for the fact that a large number of mills produce only one or two weights of hessian and two or three classes of sacking. Some of the larger groups, however, reserve one or two of their mills for the manufacture of fabrics in odd sizes and of special types, as well as for the more commonly used standard cloth and bags.

(a) *Sales in India under I. J. M. A. contract.*

170. (i) *Calcutta mills*—In Calcutta, mills sell to selected bazar dealers and shippers through brokers on direct contract, or when the buyer is not on their lists for direct sales, by principal contract. In the latter, the broker accepts the responsibility for both parties fulfilling their contract commitments. The standard contract drawn up by the Indian Jute Mills Association is used in all cases, the terms and conditions stipulating that the mill-seller agrees to deliver the goods specified free alongside export vessel in the Port of Calcutta or free on rail on a given date, provided the buyers give 5 to 7 clear working days' notice prior to that date. Payment is to be made in cash for Dock Receipt or Mates Receipt or for Railway Receipt. In the event of buyers failing to pass instructions for shipment or delivery, payment is to be made on due date in exchange for an order addressed to the Manager of the mill concerned in the contract, instructing him to deliver the goods specified in accordance with the buyer's orders. This form is known as a Delivery Order and is a document of extreme importance in gunny trading. The contract further details the sellers' position, provides for the possibility of delays in the performance of the contract caused by circumstances beyond their control and lays down the procedure which must be followed by buyers in such cases. Any dispute arising out of the non-fulfilment of contractual obligations which cannot be settled amicably is referred to the Tribunal of Arbitration of the Bengal Chamber of Commerce.

171. The sale of manufactures for Indian consumption is made in a similar manner by mills under European management, i.e., through brokers to wholesale distributors in the bazar. The above form of contract is used and shipping instructions are issued in accordance with the terms laid down. But several Indian controlled mills in Calcutta work in a different manner. They have agents and distribution centres at the most important towns throughout the country. The agents, working through brokers and sub-agents, collect orders for all types of bags customarily used, and transmit them to the mill. Payment is made to the agents after delivery and the acceptance by consumer. An agent may also be a retail distributor, selling bags in the bazars and villages in the area under his charge. He may carry stocks of standard bags usually consumed in the district, accounting to the mill for all such stocks and sales. No contracts are passed for business of this nature, confirmation of completed sales being made by letter.

172. (ii) *Mills upcountry*—Mills situated in different parts of India carry on business on much the same lines as above, the bulk of their production being sold through agents for Indian consumption. Very few of these mills manufacture jute goods for export and the quantities are small. When undertaking sales to large Indian consumers or distributors, they use a modified form of the Indian Jute Mills Association contract. The terms and conditions differ only in respect of a few minor points relating to deliveries. These contracts were approved by the Mills Association in 1938 and are the only forms used in the trade outside Calcutta.

173. (iii) *Calcutta shippers and bazar dealers*—All local trading between shippers and bazar dealers, or *vice versa*, is done under the Mills Association contract. The volume of such business is considerable and according to reliable trade estimates sales for shipment alone account for 75 per cent. of the total export. In addition, there is a large turnover in speculative sales from the bazar to shippers or between the bazar dealers themselves, which amounts to many crores of yards and bags in the course of a year.

(b) *Options, declarations and penalties.*

174. The majority of gunny contracts between mills and bazar or speculative shippers, while stipulating for the delivery of the recognized standard widths and weights of cloth or bags, also permit of a series of optional sizes to be taken by the buyer. For instance, certain groups may sell standard 8 oz. 40" cloth, but the buyers may be allowed the option of calling for the delivery of widths from 36" to 54", the weight of the cloth being in proportion to 8 oz. per yard for 40" width. The latter

may also have the option of taking delivery of $7\frac{1}{2}$ oz./40" again with a choice of other widths. In the case of heavy hessians, the sizes generally range between 36" and 45" on the basis of $10\frac{1}{2}$ oz. per yard of 40" width, or the contract may permit the buyer to declare sizes on 10 oz. for 40" width. In the case of sacking products, however, the procedure is slightly different. For the more commonly used bags, the contract usually stipulate the length to be any declared length from 36" to 45", with the option of widths between $26\frac{1}{2}$ " and 29" together with distinctive coloured stripes to be worked into the bag. This privilege is widely used in the gunny bag industry and is an important feature.

175. Contract conditions specify that all sizes must be declared at least forty-five days before due date or by the fifteenth day of the month preceding delivery, otherwise it is understood that the goods will be manufactured to the standard sizes at which the contract was made. When no declaration regarding size has been made, it is customary for a mill to notify the buyer to that effect. A series of penalties or charges are made for goods declared at sizes less than the standard ones. For 36", the penalty is four annas per hundred yards and for 37" three annas, in other words one anna per inch. This charge is made on account of the loss of reed space at the time of weaving or, in other words, to compensate the mill for having to use a loom capable of producing wider cloth, for the manufacture of narrow fabrics for a certain buyer. When declarations call for cloth of greater width than the standard named in the contract, there is no penalty, but the cost is calculated on the basis of the increase in weight above the standard. In the case of sacking products, a similar penalty is made for widths less than the standard ones, but none for length. Coloured stripes are usually charged at four annas per hundred bags to cover the additional cost incurred by the mill for dyeing and handling.

(c) *Deliveries.*

176. (i) *Shipping instructions*—Under the terms of the Indian Jute Mills Association Contract, an order to effect delivery must be obtained in a form designated 'Shipping Instructions'. These are instructions to the mill-seller to place goods, bought under a specified contract, either alongside an export vessel named or on rail for despatch to some point in India. In addition to the orders regarding despatch, the instructions also specify the distinguishing marks to be stamped on the bales and stress the necessity of mills clearly stating whether the goods are 'Sacking' or 'Hessian' to meet Customs' requirements. This document also makes certain stipulation regarding the preparation of mills' specifications, and contains a request for samples representative of the shipment.

Mates and Dock Receipts—The goods intended for shipment are taken to the docks either by cargo boat or motor lorry, depending upon the location of the mill and the form of transport used. They may be loaded direct into the vessels, in which case a receipt is issued by the First Executive Officer, or Mate of the ship in charge of stowage—this is termed the 'Mates Receipt'. Should the vessel not be ready to load, jute goods are transferred to a shed and a 'Dock Receipt' is given by the Port Authorities. This is retained by the mill and after loading into the export vessel is changed for a 'Mates Receipt'. If, however, the shipment is delayed after due date of delivery, the Dock Receipt is tenderable in support of the mills invoice for the goods.

Railway Receipts—Fabrics for despatch by railway are loaded into wagons at the mill's sidings or at the railway goods stations. Receipts are given after the loading has been completed and the wagons sealed by a member of the railway staff.

Dates for submitting—From five to seven clear working days' notice must be given to a mill to effect delivery either at docks or on rail. In the case of shippers buying from second-hand bazar sellers, the former pass their instructions one day earlier so that the latter may be in a position to give the mills sufficient notice as laid down in the Indian Jute Mills Association contract.

177. (ii) *Delivery Orders*—In the event of a buyer failing to give the sellers instructions for shipment or delivery within the stipulated time, a written intimation is sent to the buyer by the mill agent advising him that his goods are lying ready in the mill godown. This intimation is considered sufficient tender and is followed on the due date by the presentation of a bill for payment. In addition to a formal receipt, the agents give to the buyer a 'Delivery Order' addressed to the manager of the mill at which the goods have been made, instructing him to deliver on demand certain goods to the buyer. The order contains two clauses to the effect that (i) the goods lie at buyers' risk and if not removed within thirty days after due date godown rent will be charged, and (ii) the fabrics concerned are held covered under the Mill Insurance Policies against fire for a stated period and after expiration until date of removal they will be at owner's risk unless cover against fire is renewed. So far, the provisions of the above clauses have not been put into effect although there has recently been a move to do so, but only in respect of goods which have been lying in storage for over nine months. This matter still awaits final settlement. The period for

effecting shipment against Delivery Order is at present the same as that ruling for due date goods ; but, again, mills are making a move to have this extended so that longer notice should be given. In respect of short weight of gunnies covered by old Delivery Orders (some may be in existence for as long as eighteen months before delivery is taken), claims are borne by the mills. It will be seen, therefore, that mills extend many privileges to their bazar buyers as regards storage and delivery of goods purchased, and the expenditure incurred on account of insurance and storage amounts to a considerable sum in the course of a year.

178. In the gunny buying trade, the Delivery Order is regarded and treated as a negotiable instrument and may change hands many times between the date of its issue and that on which delivery is taken. Practically all are held by bazar dealers and it is impossible to estimate the amount of capital invested in Delivery Orders, but it must represent an enormous sum. It is rarely that a mill does not sell its total production in any month and, as already stated, approximately 75 per cent. is taken up by speculative merchants. In practically all cases, they contract for fabrics of standard widths and weights, but with the fullest range of optional sizes obtainable from the mills and this enables them to meet shipper's requirements for many types of cloth and bags over a wide reach. Speaking generally, therefore, it may be stated that the holders of these Delivery Orders are the main source from which spot goods can be bought and, at times of sudden demand for fabrics required for immediate delivery, sometimes resulting in a rise in prices, these dealers reap considerable profit. To the bazar traders, the Delivery Order is a document of particular importance. They use it as a negotiable instrument for it is seldom indeed that no buyer is immediately available even on a quiet market. Thus, the merchants are able to secure funds within a few hours, or days at the most, because payment is made at once against these Orders. Some banks accept them as security against loans and allow advances up to a high percentage of the market value of the Orders at the time of deposit. A specimen Delivery Order is shown in the next page.

2. WHOLESALE AND RETAIL SALES IN CALCUTTA.

179. A moderately large business is done in jute fabrics of all types in Calcutta, and wholesale merchants have godowns and large shops in several parts of the city. They do not confine themselves to dealing in jute only, and generally include coir and cotton products also in their stocks. They effect their purchases either direct, or through brokers, from the Indian bazar dealers, or from one or two of the Indian managed mills. Many of them own retail shops at which goods

DELIVERY ORDER

No.A/ Calcutta.....194

To

The Manager,

.....Mills

Deliver to Messrs.....

.....

Awaiting Shipping Instructions.

The above goods are held covered under our Mill Insurance Policies against Fire until.....on the expiration of above date until removal goods will be at owner's risk, unless cover against Fire renewed. Mills will on request and at owner's expense renew cover against Fire under Mill Policies as may be arranged.

Contract No.....

For and on behalf of

Bill No.....

.....

Managing Agents.

are sold by the yard, in the case of hessian and canvas, and in units of gunny sacks. The conditions of wholesale buying include free delivery at the nearest *ghat* or railway siding, but a small charge is made when goods are delivered at buyer's premises. Payment is made after inspection and acceptance. In order to purchase jute goods, the retail dealers visit the wholesale merchants' godowns, select the goods required, make the necessary payment and take delivery on the spot. These small traders seldom buy more than one or two cuts of hessian or fifty bags of any one size at a time. They essentially operate with small capital and deal in goods which have a quick sale.

180. The following wholesale and and retail prices of jute goods prevailed in the Calcutta market on 1st June, 1940. Though fairly extensive enquiries were made, it was not possible to establish with any accuracy the turnover of wholesale and retail sales in Calcutta. Buyers in many cases did not keep records and the estimates given by the larger dealers varied considerably. It would appear, however, that the offtake of hessians was 50 to 60 lakhs of yards and that of bags about 30 lakhs a year.

Types and sizes of manufacture	P r i c e			Retail price per unit
	Mill	Wholesale	Retail	
	Rs. as. p.	Rs. as. p.	Rs. as. p.	Rs. as. p.
Hessian (per 100 yds.)				
36" ex. 8 oz/40"	10 8 0	11 0 0	12 8 0	0 2 0
40" " 8 oz.	11 0 0	11 8 0	14 1 0	0 2 3
54" " 8 oz/40"	14 14 0	15 12 0	18 12 0	0 3 0
36" " 10 oz/40"	13 4 0	14 0 0	15 10 0	0 2 6
40"	14 4 0	15 14 0	17 3 0	0 2 7½
45"	15 12 0	16 12 0	18 12 0	0 3 0
Sacking (per 100 bags)				
A. Twills	36 0 0	37 0 0	43 12 0	0 7 0
Liverpool Twills	33 8 0	34 0 0	39 1 0	0 6 3
B. Twills	29 2 0	30 0 0	32 13 0	0 5 3
Heavy Ceers	28 12 0	29 4 0	31 4 0	0 5 0
Canvas (per 36 yds.)				
Hockey Brand 24"	11 8 0	12 4 0	12 15 0	0 5 9
" " 37"	16 0 0	16 8 0	17 7 0	0 7 9
" " 48"	21 0 0	22 0 0	23 1 0	0 10 3
Pistol " 37"	15 0 0	15 12 0	16 14 0	0 7 6
" " 42"	18 4 0	19 0 0	20 4 0	0 9 0

3. SALES OVERSEAS.

181. (a) *General procedure*—The extent of competition in the various fabrics consuming countries overseas largely dictates the method of selling observed by Calcutta shippers. For instance, in the United States, the margin between the Calcutta and landed American price is so fine that the majority of sellers cannot afford to employ agents as the amount of their commission, nominally only one per cent. would make their offers too high. As a result, the bulk of business with that country is done direct with consumers. Similar conditions prevail in South America, but in other important countries such as the United Kingdom, South Africa and Australia most of the trading is done through agents. The procedure observed in conducting business is fairly uniform and, as may be expected, the initiative in instituting enquiries leading to sales varies considerably according to the state of the market. When firm conditions prevail and sellers are reserved owing to the increasing demand, overseas buyers become keen. But

with any sign of slackening off, such as bear selling on the part of speculative dealers or mills showing a keenness to enter into forward contracts at slightly reduced rates, the initiative to trade changes and the shippers endeavour to attract business from their clients in overseas countries. In general practice, consumers or agents send out enquiries to Calcutta exporters and they in turn circulate them to mills or bazar through brokers. For odd sizes and special fabrics not generally available in the bazar, the best rates offered by mills are accepted. But, in the case of standard widths and weights, or sizes easily obtained, the shipper may either cable the current market rate if he chooses to take a view of the market, or a price based on his own opinion of the future trend of the market. These offers are usually 'firm', *i.e.* binding on the shipper for a definite period (generally 24 hours) from the time of despatch, but there are also occasions when it becomes necessary to extend the period because of difficulty in communicating with the clients in time. If no reply is received within the period during which the offer is in force, there is no obligation to sell at the rate quoted, but a counter-offer may be received and it is up to the shipper to obtain the goods at the stated rate or to make an offer in his turn. Sales are effected by cable, and confirmation is given by the exporter through the issue of a contract on a form authorized by the Calcutta Jute Fabrics Shippers Association.

182. (b) *Contracts*—The form of contract issued by the Calcutta Jute Fabrics Shippers Association is the only one used in sales made between Calcutta shippers and their overseas clients. There are two standard forms of this contract, *viz.* (i) the United Kingdom Jute Goods 1935 Contract—which covers all sales in Europe, Canada, North and South America, Japan, Russia and the near East¹—and (ii) the Australian Jute Goods 1935 Contract—which is used to make valid sales in Australia, New Zealand and the South Pacific Islands coming within the Australian region. The terms in each form are similar except for one or two points. For example, whereas in the U. K. contract the price of the goods sold includes insurance on fair average and war risk, the Australian form stipulates that war risk will be covered by sellers on buyers account and charged for extra in the invoice. There are also slight changes as regards terms governing payment and reference to the venue and method of conducting arbitration.

183. The general conditions of both contracts cover all matters concerning shipment, insurance, delays in performance owing to circumstances arising outside the control of sellers, action which may be taken in such cases and also the procedure in regard to claims. In

1. A standard United Kingdom Contract Form is attached at Appendix F.

the event of disputes, which are taken to arbitration by either party in connexion with claims against non-performance, shipment, quality packing, make-up consular invoices, measurement, weight and/or condition, the U. K. contract specifies that they should be submitted to the Tribunal of Arbitration of the Bengal Chamber of Commerce. Disputes for reasons other than the above may, at buyer's option, be held in London, Liverpool, Glasgow or Dundee under the rules and regulations for the time being in force of the United Kingdom Jute Goods Association Ltd. Under the Australian form of this contract, claims not composed amicably are sent for final settlement by the Arbitration Tribunal of the Bengal Chamber of Commerce. In both contracts the penalties laid down, as regards non-payment within the stipulated periods, are the same.

4. EXPENSES INVOLVED IN EXPORTING JUTE FABRICS.

184. Unlike the mills or jute balers and exporters, the shipper of jute fabrics has relatively small overhead expenditure. Few firms in Calcutta operate solely as gunny exporters. In most cases this branch of the trade, although operating as a separate unit, forms a department or section for a big concern which deals in several lines of business and works under the control of partners or directors. As a result, its contributions towards the overhead costs of running the agency are nominal, the main expenditure consisting of the cost of establishment and cable and general trading charges. All purchases from mills or bazar are on the basis of free delivery alongside the export vessel. Thus, costs for actual delivery commence after the goods have been placed at the docks. The items of expenditure which go to make up the cost of Calcutta fabrics to the consumer overseas are given below.

185. (a) *Shippers overhead charges*—There are certain items, e.g. department's shares of general office expenses, European and Indian establishments, stationery and printing, subscriptions to associations, telephone, cabling and other sundry costs which are not affected by the actual volume of business. The total expenses on their account have been estimated by a European shipper at approximately half to one per cent. of the total value of a year's turnover.

186. (b) *Operating charges*—Operating charges are incurred in the process of exporting fabrics. These may be subdivided under five heads as follows.

- (i) In connexion with actual shipping, Export Duty of Rs. 32 per ton on Hessian and Rs. 20 per ton on Sacking.
- (ii) Port dues, including Toll, Sewer charges and Port Commissioners' charges at Rs. 2-2-6 per ton.
- (iii) Calcutta Improvement Trust Cess at 12 annas per ton.

- (iv) Sircar's fees for work at docks, lifting and loading into steamer or into sheds and other sundry work.
- (v) Consular fees and charges are levied by all foreign consulates before visas are given to documents relating to the export of goods, and cover the issue of consular invoices, legalization of Bills of Lading and other necessary papers. Each country has its own system of assessing these charges; they vary considerably in amount from one country to another.¹

187. (c) *Freight*—The method followed in paying freight is largely a matter of mutual arrangement between sellers and buyers. While no hard and fast rules are observed, in every country there is one form more generally used than others. In practically all contracts made with the United States buyers, the conditions of sale stipulate that delivery will be made free on board at Calcutta, freight being arranged and paid for in that country. The system commonly adopted in case of the goods despatched to the United Kingdom, as well as to Australia, New Zealand, South Africa and the Far East, is that the contract price includes freight and insurance, the latter being booked in Calcutta. There is, however, a moderate amount of selling to the United Kingdom on the basis of free alongside in Calcutta.

188. (d) *Landing charges at port of destination*—Charges in respect of landing jute goods vary to a great degree from one country to another. Import duty is imposed on different scales, depending upon each country's tariff policy and its attitude towards supporting the indigenous fibre industries. Enquiry from many sources in Calcutta did not yield much information, as shippers and even consulates had surprisingly little knowledge on this point. Rates were, however, given for New York, and as regards Australia it was stated authoritatively that there was no import duty on standard jute fabrics and clearance charges were small. The costs incurred in shipping jute goods to these countries are analysed below.

189. (e) *Summary of charges*—To summarize the above and to show how the difference between the Calcutta market price and the landed cost overseas is made up, two sets of expenses are given—the first, for the shipment of one lac yards of hessian to New York, and the second, in respect of one hundred bales of thirty thousand Australian Cornsacks for Melbourne. The calculations are merely illustrative and might have undergone some change since the report was written.

1. Details of the rates charged in the principal countries are given at Appendix G.

Hessian Cloth

(i) 50 Bales containing, 100,000 yds. Hessian Cloth, 10 oz. per yard of 40" wide, at say Rs. 15 per 100 yards, delivered free alongside Calcutta (i.e. 28 tons including tare)	Rs. 15,000 0 0
(ii) Shippers Commission, say at 1%	" 150 0 0
(iii) Port Commissioners charges, River dues and Toll on 28 tons at Rs. 2-2-6 per ton	" 60 0 0
(iv) Export Duty Tax & C. I. T. Cess on 28 tons at Rs. 32-12	" 917 0 0
(v) Sundry handling charges, Sircar's fee, hoisting and movements at docks	" 30 8 0
(vi) Consular fees and charges	" 8 7 0
Free on board price	Rs. 16,166 5 0
(vii) Freight and Insurance at £1-14-9 per ton of 40 c. ft. or 16 cwt. at 1s. 6 $\frac{3}{4}$ per Re. on 28 tons	" 806 10 0
Cost, Insurance and Freight price	Rs. 16,972 15 0
(viii) Landing charges at New York	
A. Import Tax at half a cent per lb. say 31.25 cents per 100 yds. at \$.35=Re. 1	Rs. 892 14 0
B. Clearance charges at not less than forty cents per bale app. 2 cents per 100 yds. at \$.35=Re. 1	" 57 2 0
New York Landed Cost for one lac yds.	Rs. 17,922 15 0
New York price (app.)	Rs. 17 15 0 per 100 yds.
Calcutta market price	Rs. 15 0 0 " " "
Difference	Rs. 2 15 0 " " "

Gunny Bags

(i) 100 Bales, containing 30,000 pieces cornsacks, size 41" x 23", wg. 2 $\frac{1}{2}$ lbs. at Rs. 33 per 100 bags delivered free alongside, Calcutta	Rs. 9,900 0 0
(ii) Shipper's Commission at 1%	" 99 0 0
(iii) Marine Insurance	" 365 0 0
(iv) Port Commissioners charges, River dues and Toll on 34 tons at Rs. 2-2-6 per ton	" 73 8 0
(v) Export Duty Tax and Calcutta Improvement Trust cess on 34 tons at Rs. 20-12	" 705 8 0
(vi) Sundry handling charges, Sircar's fees, hoisting and movements at docks etc.	" 45 0 0
(vii) Agents Commission at 1 $\frac{1}{2}$ %	" 148 8 0
Free on board price	Rs. 11,336 8 0
(viii) Freight on 34 tons at £2-7-6 Stg. per ton of 40 cubic feet or 16 cwt.	" 1,047 15 0
Cost, Insurance & Freight price	Rs. 12,384 7 0

(ix) Landing charges in Melbourne, Australia. Clearance charges estimated at As. 12 per bale	...	..	75	0	0
Melbourne Landed Cost	...	...	Rs.	12,469	7 0
(x) Difference in exchange at the rate of £125 Australia to £100 Stg. i.e.	...	...	..	3,158	15 0
Total cost for 30,000 Bags	...	...	Rs.	15,628	6 0
Melbourne price (app.)	...	Rs.	51	12	0 per 100 bags.
Calcutta Market price	...	Rs.	33	0	0 ,, ,, ,,
Difference	...	Rs.	18	12	0 ,, ,, ,,

C. CONSUMPTION OF MANUFACTURED GOODS

I. INTERNAL CONSUMPTION.

190. (a) *Quantitative*—The meagre statistics available regarding the distribution of jute goods to markets in India preclude any accurate estimate of the country's actual consumption. The figures published in this connexion are incomplete. The first set of these appear in the annual report of the Indian Jute Mills Association, which record the quantities delivered to upcountry markets from Calcutta mills only, and do not take into consideration the outturn of the Bihar, Madras and the United Provinces mills. The second set comprises the official Inland Trade Statistics, published by the Department of Commercial Intelligence and Statistics (Government of India), and records quantities of all goods passing by railway or river from one province to another in India, but excludes the distribution of any commodity produced and consumed within the province. When one considers the large market in Bengal for the Calcutta jute fabrics and the market in the United Provinces for the goods manufactured in Cawnpore, and again the quantities produced in the Madras mills for the local markets, it will be realized that the published statistics are hardly comprehensive for the purpose of estimating the total internal consumption of gunny cloth and bags.

191. Further, though it is possible to estimate roughly the probable total production of these mills, the proportion taken for local consumption cannot be related to the distribution reported in the Inland Trade Statistics as the consignments despatched from Calcutta to some inland towns via Indian ports—such as Madras, Bombay and Karachi—are recorded twice, first, when carried by coastal steamer, and again when transported to their destinations by railway. An indication of the trend of consumption may, however, be obtained from the figures

compiled by the Indian Jute Mills Association in respect of deliveries from mills in Calcutta which are shown in the following table for the decade 1929-30 to 1938-39. It will be seen that during the last five years, the offtake of bags and cloth has increased by a large margin. This is almost entirely due to the growth and development of several industries such as sugar, flour and cement in recent years. For the first two years under review the offtake by Indian markets was 64,720 and 63,241 tons of gunny bags and 7,188 and 7,082 of cloth respectively. Thereafter, apparently as a result of a drop in the exports of commodities for which bags were used, the figures declined, and during the five years 1931 to 1935 were at a considerably lower level than in the foregoing period, averaging only 55,697 tons of bags and 6,169 of cloth.

TABLE XV
Quantity of Gunny Bags and Cloth delivered from Calcutta mills for local and up-country markets.

Season	Bags		Cloth		Total
	Number	Weight	Yards	Weight	
		tons		tons	tons
1929-30	64,432,224	64,720	28,623,387	7,188	71,908
1930-31	62,960,048	63,241	28,200,599	7,082	70,323
1931-32	53,767,974	54,008	20,467,172	5,139	59,147
1932-33	57,245,694	57,501	15,761,510	3,958	61,459
1933-34	58,430,655	58,691	24,478,476	6,146	64,837
1934-35	50,869,332	51,096	24,665,467	6,193	57,289
1935-36	56,934,951	57,189	37,464,553	9,408	66,597
1936-37	63,678,202	63,962	23,839,073	5,986	69,948
1937-38	75,633,028	75,971	23,735,775	5,960	81,931
1938-39	102,041,416	102,497	55,217,058	13,876	116,373

Note—The weight of gunny bags and cloth has been calculated on the basis of 2½ lb. per bag and 9 oz. per yard of cloth.

Source:—Annual Reports of the Indian Jute Mills Association.

192. A change for the better occurred in 1935-6, and though the consumption of bags showed an improvement of a little more than six thousand tons, there was a sudden and heavy demand for cloth and deliveries reached the record figure of 9,408 tons. In 1936-7, again, bags were in popular demand rising to 63,962 tons, but cloth slumped to 5,986 at which figure they remained during the following year, while bags appreciated to 75,971 tons. The year 1938-9 saw something in the nature of a boom in the demand for goods in India, the consumption

of bags rising to 102,497 tons and cloth 13,876. This may be attributed, to a large extent, to dealers laying in stocks of goods on account of the uncertainties of the international situation. Two mills which manufacture for the internal market only, stated that crops had been better than usual in the wheat, linseed and mustard growing districts, and that the up-country dealers had taken up larger quantities than usual. But it is highly improbable that this would have been entirely responsible for the large increase in demand. It would appear, therefore, that without the active help of the Provincial Governments in the matter of collecting the necessary data, it will not be possible to ascertain either the actual or the potential home requirements of gunny products. This opens up a wide field for investigation.

193. (b) *Qualitative*—The types and classes of bags and cloth taken by local and up-country markets appear to be limited to a few standard products, principally B. Twills, Heavy Cees, E. Bags, A. Twills, D. W. Flours, and both weights of hessian. Here, again, it was difficult to obtain accurate information from mills and dealers, and the response to questionnaires covering all points connected with quantitative and qualitative consumption, circulated to the marketing organization in all provinces and Indian States, brought in little information of practical value. It has not been possible therefore to treat this subject in as comprehensive a manner as its importance merits, and the statement at Appendix H, prepared as a result of the above enquiry, indicates only the types of fabric usually consumed and the uses to which they are put, together with the principal distributing centres throughout the country.

2. FACTORS GOVERNING QUANTITATIVE CONSUMPTION.

194. The fact that the demand for jute goods is largely dependent upon the prospective and actual outturn of agricultural crops explains the most important reason for the heavy fluctuations in the demand of the principal consuming countries. It is seldom that crops all the world over are uniform in their outturn. Bad growing conditions, disaster by flood, drought or storm may reduce a country's food or fodder supplies to less than half of the normal. When this occurs the demand for containers drops correspondingly, with a subsequent loss to Calcutta mills. Bumper crops again do not always mean proportionately larger offtakes of jute goods, as with the excellent bulk storage facilities now available in many of the North and South American countries, Australia, the Cape and New Zealand the use of jute bags is greatly reduced.

195. Next in importance is the price factor. When jute fabrics are cheap, they eliminate practically all other packing mediums, either paper, cotton, hemp or any other form of cloth or bags made from

TABLE XVI
Production and Consumption of Jute Goods manufactured in India.
 (000's of tons)

Year (1)	Production ¹ (2)	Consumption ² (3)	Excess Production (2)—(3) (4)	Percentage relation of (4) to (2) (5)
1932-33	902.6	742.4	160.2	17.7
1933-34	906.0	738.1	167.9	18.5
1934-35	949.8	742.9	206.9	21.8
1935-36	1,011.2	819.6	191.6	18.9
1936-37	1,253.1	1,042.7	210.4	16.8
1937-38	1,311.6	1,103.5	208.1	15.9
1938-39	1,221.6	1,073.9	147.7	12.1
Average of 7 years	1,079.4	894.7	184.7	17.1

1. Monthly Statistics of the Production of Certain Selected Industries in India.
2. Consumption is represented by total foreign exports plus Indian consumption.

natural fibres.¹ It was repeatedly demonstrated before the war that when the prices of manufactured jute goods rose above certain levels, consumers made efforts to find suitable substitutes at cheaper rates—generally paper or cotton. The danger of large scale incursions by substitute fabrics into the prominent jute markets is one which manufacturers in this country have very much in view. However, there will be little to fear if rates for jute goods are maintained at reasonable levels. What these levels should be, have never been determined though several local merchants have quoted the figure of Rs. 12 per hundred yards for 8 oz./40" hessian (Calcutta price) as the maximum. In this connexion, it may be said that a full enquiry into this important question in the countries where substitute fabrics are most likely to be introduced may yield results which would be of considerable value to mills in India:

196. Along with the reasons concerned with the effect of natural conditions on outturn, must also be considered the attitude of many countries towards the development of their own natural resources in fibre producing crops or in their ability to produce a natural type which could replace jute products. Among the former, *rosella* in Java, *kenafe* in Japan, *cottonised straw* in Germany, *sisal* in France and several South American countries may be specifically mentioned. In the latter category may be included *kraft* paper bags, which are now

1. For details see Section E. *infra*.

used as containers for cement in the Argentine, France, Germany and to an ever increasing extent in Australia. In order to support these attempts to help their indigenous industries and, at the same time to reduce or even eliminate the consumption of jute fabrics, many countries have placed what amounts to a virtual embargo by levying heavy import duties on jute goods, which result in increasing the price of fabrics to the level of the indigenous products. Another feature which cuts heavily into Indian production is the introduction in America, Canada, Australia and the Argentine of the bulk storage and handling of wheat. The erection of grain elevators and silos for storage, together with the help given by railways in supplying specially designed rolling stock to enable wheat to be moved in bulk from the producing areas to the distribution and shipment points and also by the shipping companies in arranging for its bulk leading and transport, has meant a very large reduction in the consumption of jute bags.

3. TREND OF EXPORTS FROM 1921 TO 1939

197. With the rehabilitation of trading conditions after the World War of 1914-18, the jute industry in common with many others experienced a period of intense activity and prosperity. Countries which for four years, had been either cut off from their supplies of gunny cloth and bags, or had them severely curtailed, replenished their stocks and this necessitated the mills working at full capacity to meet the heavy demand. All looms which had been engaged in the production of sand bags and other fabrics necessary for war purposes, were once more utilized for weaving cloth to make wrappers and containers for packing agricultural produce and other commodities for which jute fabrics were used. In the decade, 1920-30 active efforts were originally made by many big countries to increase their agricultural and industrial production, from which the jute trade derived great benefit. From 1921 onwards, there was a steady increase in exports each year improving on the preceding one by a considerable margin. The total exports in 1921-22 were 640,703 tons and by 1929-30 these had appreciated by nearly 50 per cent. to 957,955 tons, a total never before reached in the history of the trade. These years marked a peak in peace time prosperity: the prices rose and mills were in full production. The effect of the following five years has been noted briefly in the preceding section, but when expressed in terms of quantities exported it presents a sad comparison. In the year 1930-31, exports decreased by nearly 30 per cent. to 766,649 tons, to be followed by a further drop in 1931-32 to 663,618 tons. During the next three years the offtake was at a low level, being 679,745 tons in 1932-33, 672,155 in 1933-34 and 684,718 in 1934-35.

198. Signs of recovery became apparent in 1935-6 and the year closed on a better note, exports having increased by over 12 per cent. to 752,012 tons. In 1936-37, there was a general improvement in world trade. This factor coupled with favourable agricultural crops in many countries and the comparatively low prices for bags and cloth, was responsible for exports increasing by nearly 220,000 tons to 971,737. And the following year witnessed better results still, shipments of jute goods from India exceeding the one million ton mark for the first time: the actual figure in 1937-38 was 1,020,400 tons, in 1938-39 a small decline was noticeable, the exports amounting to 955,272 tons, but during the next year which included the first six months of the present war they appreciated again reaching a new record level of 1,083,961 tons. From the above, it will be seen that the general trend of exports has been upwards and that the export of 1939-40 exceeded the record established ten years before. However, in the period prior to 1928-29, the large offtake was actually consumed in the land to which it was sent whereas a decade later a large percentage of the goods exported was not taken up for consumption and lay in storage. The following table illustrates the trend of exports over the last twenty years and shows both the actual volume of exports and the calculated trend value analysed over that period and

TABLE XVII

Year	Exports (tons)	Trend value	Index Numbers
1919-20	652,653	753,720	100
1920-21	832,978	749,478	99
1921-22	640,703	746,812	99
1922-23	671,709	745,724	99
1923-24	746,589	746,212	99
1924-25	812,803	748,277	99
1925-26	810,854	751,919	100
1926-27	860,692	757,137	100
1927-28	884,721	763,933	101
1928-29	911,510	772,305	102
1929-30	957,955	782,254	104
1930-31	766,649	793,780	105
1931-32	663,618	806,883	107
1932-33	679,745	821,563	109
1933-34	672,155	837,819	111
1934-35	684,718	855,652	114
1935-36	752,012	875,062	116
1936-37	971,737	896,049	119
1937-38	1,020,400	918,613	112
1938-39	955,272	942,753	125
1939-40	1,083,961	968,470	129

reproduced in the form of index numbers. It will be seen that the calculated trend shows an increase of only 2 points during the first decade, but a rise of no less than 27 is recorded during the second—making in all an overhead, increase in offtake of 29 points, or 29 per cent. It would be of interest to compare this figure with the growth of volume of world trade for commodities requiring jute bags and cloth for their carriage for the corresponding period.

4. TREND OF CONSUMPTION IN RELATION TO PRODUCTIVE CAPACITY.

199. The ultimate solution of all marketing problems consists in maintaining a stable relationship between supply and demand. The growth of the jute mill industry in India, particularly for the last fifteen years, has taken place without much regard to this fundamental condition. The result has been that the productive capacity of the mills has far outstripped the demand for jute goods. The circumstances under which this situation has been permitted to arise have already been discussed. Likewise the trend of consumption of jute goods and details of increases in loom strength have been reviewed. It is, however, necessary to arrive at a quantitative estimate of the productivity of the mills which may appear to be in excess of the probable demand for jute manufactures. The factors which are of prime importance for the estimation of the excess productivity of the mills are (a) normal demand for jute goods, (b) normal hours of work and (c) the normal loom strength required to meet the normal demand. The norms should be so determined as to allow for adjustments of the total loom-hours worked corresponding to variations in demand, without putting undue strain on the industry as a whole. It has been shown previously that, excepting for extraordinary circumstances, the usual number of hours worked by the mills was 54 per week.¹ In the period of depression, the hours had to be reduced to a minimum of 40 per week accompanied by the sealing of a certain percentage of the looms. It would, therefore, be reasonable to take 54 hours per week as the normal hours of work of the mills.

200. The following table gives the total number of looms in India and total exports of jute goods from India (including Burma), for 12 years from 1927-28 to 1938-39. The figures for 1939-40 have been excluded from the table owing to the fact that the conditions created by the war would vitiate comparison of 1939-40 figures with those of earlier years. The mills were working 54 hours per week in 1928-29.² The export demand for this year was a little over nine hundred thousand tons,

1. cf. Ch. II Sec. D. *supra*.

2. Vide *Report of the Indian Jute Mills Association, 1929*.

which was exceeded only in three years during the period of ten years following 1928-29. On the basis of the demand for jute goods and

TABLE XVIII

Year (April-March)	Number of looms†	Exports of jute goods‡ (in tons)
1927-28	52,221	885,000
1928-29	52,409	912,000
1929-30	53,900	958,000
1930-31	61,834	767,000
1931-32	61,426	664,000
1932-33	60,506	680,000
1933-34	59,501	672,000
1934-35	61,387	685,000
1935-36	63,724	752,000
1936-37	65,273	972,000
1937-38	66,705	969,000§
1938-39	not available	903,000§

†Statistical Abstract for British India.

‡Monthly Survey of Business Condition in India.

§Exports to Burma, compiled from Customs export lists, have been excluded.

the productivity of the industry in 1928-29, it can be easily seen that a slight adjustment in the hours of work would have been able to meet the increased demand in the years noted above. For example, the maximum demand for the period under consideration was that in 1936-37, which exceeded the demand in 1928-29 by a little over 60,000 tons. Now, the productivity of the mills in 1937 was 6,614 tons per million loom-hours.¹ On this basis the total loomage in 1928-29 would require about 173 hours to meet the excess demand. This works out at a little over 3 hours per week. In other words, if it is assumed—not an unreasonable assumption—that the export demand for jute goods is not likely to exceed the maximum of the preceding decade in normal years of peace, it follows that even if the Indian mills possess no more than their loom strength of 1928-29, they will be ~~called~~^{required} upon to extend their hours of work beyond 57 per week in the future in times of peace.

201. In the foregoing discussion the Indian consumption of jute goods and the question of stocks have been left out of consideration. In the absence of sufficient information it is not possible to arrive at a reasonable estimate of the consumption of jute goods in India (including Burma) for the year 1928-29. But, the returns published by the

1. Vide *Report of the Indian Jute Mills Association, 1937*, p. 117.

Indian Jute Mills Association show that the demand for jute goods in the local and up-country markets fell by about 5 per cent. between 1928-29 and 1936-37. Hence the productive capacity of the industry in 1928-29 would have been more than sufficient to meet the total demand for jute goods in 1936-37. A similar difficulty arises in the case of stocks of jute goods with the mills. No data are available regarding stocks at the end of 1928-29. If the productive capacity of the industry is assumed to be fixed at the 1928-29 level, it is just possible that the mills may have to work longer hours under extraordinary circumstances in order to replenish their stocks. On the other hand, such extension of working hours may not be necessary in actual practice, provided there is normal accumulation of stocks during the slump years. Thus, it is now possible to arrive at an estimate of the excess

TABLE
Exports of Jute Manufactures to all
(In

Year	Sack ing				Hessian			
	Bags		Cloth		Bags		Cloth	
	Quantity	p.c.	Quantity	p.c.	Quantity	p.c.	Quantity	p.c.
1928-29	437,821	48.0	43,639	4.7	38,745	4.3	383,534	42.0
1929-30	454,867	47.4	32,991	3.4	43,853	4.6	418,323	43.6
1930-31	378,626	49.3	20,923	2.7	38,069	4.9	316,370	41.2
1931-32	339,276	51.1	12,700	1.9	37,867	5.7	254,197	38.3
1932-33	359,285	52.8	12,644	1.8	38,917	5.7	257,109	37.8
1933-34	339,379	50.5	17,911	2.6	41,792	6.2	262,475	39.0
1934-35	350,158	51.1	16,461	2.4	45,614	6.6	264,205	38.5
1935-36	371,566	49.4	18,081	2.4	54,160	7.2	299,890	39.8
1936-37	451,101	46.4	19,151	1.9	64,778	6.6	422,932	43.5
1937-38	502,309	49.2	20,407	2.0	59,057	5.7	418,797	41.0
1938-39	467,790	48.9	20,626	2.1	60,299	6.3	389,469	40.7

Source:—Annual Statement of the Sea-borne Trade

productive capacity of the industry. Taking the loom strength for 1928-29, namely, 52,409, as adequate for meeting the normal demand for jute goods, the present loom strength of 68,416 shows an excess of 16,007 looms. In other words, the present productive capacity of the Indian jute mill industry is 31 per cent., or about one-third more than what would be *normally* required.

5. TREND ACCORDING TO TYPES OF MANUFACTURE.

202. While illustrating the annual exports of jute manufactures of all types from 1928-29 to 1938-39, Table XIX shows in the form of percentages the variability of consumption for each class of goods. The average exports of sacking bags amount to 49.5 per cent. of the annual shipments, and it will be seen that no great deviations from that

XIX

countries from 1928-29 to 1938-39.
(tons)

Miscellaneous Manufactures				Percentage of miscellaneous manufactures	Total Exports	General Percentage
Canvas goods	Rope & Twine	Twist & Yarn	Other types			
3	5,375	2,188	205	1.0	911,510	100
4	4,880	2,682	355	1.0	957,955	100
1	4,466	3,249	4,945	1.9	766,649	100
1	4,546	3,870	11,161	3.0	663,618	100
41	3,539	3,755	4,455	1.9	679,745	100
8	4,623	1,968	3,999	1.7	672,155	100
25	4,818	2,098	1,339	1.4	684,718	100
45	4,129	1,898	2,243	1.2	752,012	100
86	6,584	4,672	2,433	1.6	971,737	100
338	7,920	3,887	7,685	2.1	1,020,400	100
412	7,980	3,903	4,793	2.0	955,272	100

of British India.

figure occurred during the period under review. It is noticeable, however, that in the years of trade depression, although consumption dropped by a large amount, the percentage of sacking shipments in relation to hessian or other products rose by over two per cent. This of course was due to the fact that America, the most badly affected consuming country at that time, imported by far the largest proportion of hessian cloth produced. After the recovery the sacking offtake became normal. The relative figures are 49.2 and 48.9 per cent. in 1937-38 and 1938-39 respectively. Hessian cloth constitutes 40.5 per cent. of the total exports and, conversely with sacking, it was most badly affected during the lean years from 1931 to 1936 for the reasons given above. The best years for hessian were 1929-30 and 1936-37 with 43.5 per cent., the last two years under report being a little above normal at 41 per cent. Hessian bags have shown a marked increase in popularity throughout the period now reviewed. In 1928-29, they accounted for only 4.3 per cent. of the total, but throughout the depressed period gained importance steadily until in 1935-36 shipments amounted to 7.2 per cent. During the last three years they have oscillated about the calculated average, 5.8 per cent.

203. Sacking cloth appears to have lost ground to some extent. At the opening of this period, its export of 4.7 per cent. dropped by more than half to 1.8 per cent in 1932-33. Demand, however, steadied in the years that followed and the quantities exported have been fairly uniform at 2.5 per cent. of the total. Of the balance of manufactures, the demand for rope and twines has increased fairly steadily since 1932-33 from 3,539 to 7,980 tons in 1938-39. Twist and yarn have varied considerably during the years, being 2,188 tons in 1928-29, 3,870 in 1931-32, 1,968 in 1933-34, 4,672 in 1936-37, and for the last year (1938-39) reported 3,903 tons. The largest individual type of fabric included in the statement under the heading 'Other Types' is 'cotton bagging', a heavy loosely woven cloth which often contains a fair proportion of fibrous grasses and cotton waste in addition to jute. The quantities manufactured in and exported from India correspond to a large extent to the outturn of the American cotton crop and vary over fairly wide limits. The shipments of canvas have multiplied themselves many times over in the last eleven years. During the period 1928 to 1933-34, they were negligible, but since 1934-35 they have steadily increased. In 1931-32, the export of this fabric was a little over half a ton, but in 1934-35 it increased to 25 tons, and 86 and 412 tons respectively in 1936-37 and 1938-39. It would appear that this line of manufacture is one for which a solid demand is developing and it would be interesting to know the uses to which it is put overseas and if there is a potential outlet sufficient to warrant large scale production.

6. TREND ACCORDING TO COUNTRIES AND TYPES.

204. (a) *Cloth—North America* has been the largest user of hessian cloth and bags for many years, her imports of these materials forming the bulk of the quantities exported from India. The table below clearly illustrates her predominant position from 1919, and it will be seen that in the years up to 1931 her direct imports were often above 70 per cent. but from next year the average fell to about 64 per cent.

TABLE XX
Export of Gunny Cloth.
(in percentages)¹

Year	North America	South America	United Kingdom	Australia	Other countries	Total
1919	62.7	24.4	9.0	1.5	2.8	100.0
1920	69.5	16.0	2.5	1.2	10.8	100.0
1921	77.0	12.4	4.8	1.4	4.4	100.0
1922	77.9	12.5	4.3	1.9	3.4	100.0
1923	75.6	13.7	4.5	1.9	4.3	100.0
1924	70.8	18.3	4.2	2.0	4.7	100.0
1925	73.6	14.3	4.4	2.4	5.3	100.0
1926	69.3	20.5	3.3	1.7	5.2	100.0
1927	67.8	24.0	1.7	1.6	4.9	100.0
1928	68.8	23.4	1.7	1.5	4.6	100.0
1929	68.9	21.1	3.1	1.6	5.3	100.0
1930	72.7	16.8	3.3	1.7	5.5	100.0
1931	74.2	10.6	5.3	1.9	8.0	100.0
1932	61.5	22.6	3.5	2.4	10.0	100.0
1933	66.8	19.3	4.5	2.4	7.0	100.0
1934	62.4	21.0	4.8	2.6	9.2	100.0
1935	68.1	15.7	6.0	2.1	8.1	100.0
1936	66.3	16.7	8.2	2.1	6.7	100.0
1937	64.5	15.8	9.3	2.0	8.4	100.0
1938	57.6	19.9	11.7	2.0	8.8	100.0

1. Calculated from the reports of the Indian Jute Mills Association.

This somewhat alarming drop did not in fact alter materially America's rate of consumption, as about 1932 a new feature in trading appeared. The gunny business, affected by the depressed conditions of world trade, was at a low ebb. Dundee, in particular, was feeling the pinch and all sections of the trade were practically at a standstill. British merchants, unable to sell the products of the local mills owing to their inability to compete with Calcutta price, commenced trading in certain

lines of hessian and twill sacking made in Calcutta, but up to Dundee standards. These goods were shipped from India to United Kingdom and re-exported to North America, and within a year or two a steady demand was created which has been increasing ever since. Therefore, though the offtake of North America would appear to have decreased, it will be seen that, when read in conjunction with the increase in exports to United Kingdom, there was little actual difference. Following proportions of Indian jute shipments (cloth ultimately found their way to North America).

	Average	1932.	1933.	1934.	1935.	1936.	1937.	1938.	
America's direct imports from India.	1919-1931	72%	61.5%	66.8%	62.4%	68.1%	66.3%	64.5%	57.6%
Re-exports from U. K. to America.		3.9%	3.5%	4.5%	4.8%	6.0%	8.2%	9.3%	11.7%

205. *South America* has for many years been the second most important market for hessian and sacking cloth ; and, when the tariff policies of many of its countries are considered, it will be seen from the following quinquennial averages of the imports of jute cloth from India that jute goods have suffered rather slightly.

1919-1923	1924-1928	1929-1933	1934-1938
15.7%	20.1%	18.1%	17.8%

206. *Australia* has always been a consistent user of cloth and the following average percentages of imports show that the trend of demand is upward.

1919-1923	1924-1928	1929-1933	1934-1938
1.6%	1.8%	2.0%	2.2%

Exports of hessian and sacking cloth to countries other than those mentioned above show on the whole a rising tendency. Particular mention in this connection may be made of the steadily increasing quantities taken by South Africa, Egypt and Turkey. The quinquennial average exports to 'other countries' during the last twenty years, work out as under—

1919-1923	1924-1928	1929-1933	1934-1938
5.2%	6.1%	7.2%	8.2%

207. (b) *Bags*—The use of substitute fabrics has affected the exports of bags to a far greater extent than those of cloth. In countries where bulk handling is largely practised—namely, North and South America and Australia imports have declined by a considerable margin during the last six or seven years. In South America, which shows a large overhead decrease, the factor which has contributed greatly to the diminishing use of jute containers is the extensive use of *kraft* paper bags for cement in Brazil and the Argentine. The attempts made by several of the South American republics to foster indigenous fibres by imposing prohibitive tariff on jute goods, have also greatly affected the demand. Despite these losses, the total exports have increased with fair steadiness and, as will be seen in the following table, the ground lost in the above countries has been more than made up in other directions. A later section of this chapter explains the position in regard to substitutes, and the advance made by foreign countries to utilize indigenous fibres for the production of cloth which can or may replace jute products. This will show that although substitutes are not at present a problem to the trade, they portend a danger in the not too distant future, of which the trade can refuse to take cognizance only at its peril.

208. *Australia* with its immense production of wheat, wool, bran, and other commodities has headed the list of gunny bag importers since the last war. This Continent is now in the course of developing its resources, both agricultural and industrial, and it is probable that the loss experienced in the last five years may be recovered to a large extent as the present developmental efforts materialize. The position of Australia's imports is shown below in the form of quinquennial average exports from India since 1919.

1919-1923	1924-1928	1929-1933	1934-1938
15.7%	17.5%	17.6%	13.5%

209. *United Kingdom* maintained and even increased its consumption of bags at a fairly even rate for some years, as will be seen from the following figures.

1919-1923	1924-1928	1929-1933	1934-1938
9.1%	8.4%	8.9%	10.5%

210. *The Straits Settlements* have always been consistent users of jute containers, and the trend of demand has varied only nominally over the greater part of the period under review. As will be seen, the

TABLE XXI
Export of Bags to all Countries.
(in percentages)

Year	Australia	Straits Settlements	United Kingdom	North America	South America	China	West Indies	Japan	Burma	Others	Total
1919	10.9	8.8	14.7	14.5	7.0	9.2	5.9	1.2	11.5	16.3	100.0
1920	17.7	7.0	8.5	10.7	11.8	10.2	6.0	2.5	6.4	19.2	100.0
1921	13.9	11.4	7.0	14.2	2.9	11.2	3.9	7.6	8.7	19.2	100.0
1922	16.7	9.7	7.4	11.8	3.1	6.5	11.2	2.0	9.4	22.2	100.0
1923	19.2	9.0	8.0	10.0	9.0	5.0	6.4	2.6	6.8	24.0	100.0
1924	17.9	9.5	8.7	7.0	12.1	5.3	7.1	3.5	8.0	20.9	100.0
1925	15.5	12.2	8.5	8.4	9.5	3.8	10.2	3.2	10.5	18.2	100.0
1926	18.3	11.4	8.0	8.0	8.6	6.6	7.6	4.9	8.0	18.6	100.0
1927	16.4	12.5	8.8	6.0	7.7	7.4	8.6	2.9	9.0	20.7	100.0
1928	17.7	12.3	7.8	6.7	8.6	8.5	7.6	1.7	7.7	21.4	100.0
1929	13.8	12.1	8.9	4.6	7.9	9.3	7.5	2.1	7.5	26.3	100.0
1930	18.4	11.8	7.9	6.5	5.3	6.4	7.4	1.3	9.3	25.7	100.0
1931	15.1	12.8	9.2	6.5	2.1	10.5	5.6	0.7	11.5	26.0	100.0
1932	20.8	10.5	9.8	6.7	2.7	9.6	5.3	1.5	8.6	24.5	100.0
1933	19.6	11.1	9.1	5.4	6.0	6.8	5.5	1.1	9.3	26.1	100.0
1934	13.4	12.2	9.8	6.4	3.0	5.8	6.0	3.3	10.9	29.2	100.0
1935	13.4	12.0	9.8	6.1	3.2	5.7	7.0	3.0	10.3	29.5	100.0
1936	14.9	9.6	12.2	5.9	3.0	6.8	6.3	4.5	7.6	29.2	100.0
1937	12.5	9.6	10.2	6.3	3.1	7.2	6.4	4.9	8.8	31.0	100.0
1938	13.2	10.6	10.5	4.9	3.1	5.5	5.9	8.7	8.7	28.9	100.0

Source:—Reports of the Indian Jute Mills Association.

last quinquennium shows a drop of nearly one per cent., which is probably due to adverse natural conditions affecting crops and to incursions by substitutes.

1919-1923	1924-1928	1929-1933	1934-1938
9.2%	11.6%	11.7%	10.8%

211. *North America (including Canada)*—This vast territory has long been one of the principal consuming centres for bags and it is here that the effect of bulk handling of wheat and other grain crops has cut most deeply into the trade in jute containers. The grain storage elevator system, which became almost universal throughout North America after the last war, has caused considerable loss to the trade in bags, only a little of which has been made up by the introduction of new lines such as cement cleavage fabrics, brattice cloth for roads and for soft furnishings, etc. The extent of this drop will be seen from the following average imports.

1919-1923	1924-1928	1929-1933	1934-1938
12.2%	7.2%	5.9%	5.9%

It would appear, therefore, that attempts to offset this heavy decline in consumption by a drive to popularize jute containers or packing materials should be undertaken by the trade. The American market is a vital one and every effort must be made to preserve it.

212. *South America*—Here also the use of substitute materials and bulk grain storage has left its mark on the exports of bags from India, though not to the same extent as in North America. Jute cement bags have been largely replaced by *kraft* paper, and in one or two republics in this Continent the import of jute goods has been virtually prohibited. The need for exploring the possibilities of expanding existing markets is overdue. The imports of bags from India have been steadily decreasing as shown below.

1919-1923	1924-1928	1929-1933	1934-1938
6.7%	9.3%	4.8%	3.1%

213. *China*—This country has been an important outlet for the heavier types of sacking bags for many years. She has maintained her imports at a comparatively steady level, even in face of the present war.

1919-1923	1924-1928	1929-1933	1934-1938
8.7%*	6.3%	8.5%	6.2%

*Includes a percentage of exports to Japan.

214. *West Indies*—The series of islands which go to make up this area have always occupied a position of considerable importance in the gunny bag export lists. The trend of consumption here has varied comparatively little, and it appears that apart from fluctuations in demand resulting from the outturn of the various crops for which bags are used, no outside influences have as yet affected this market. Quinquennial import figures since 1919 are:

1919-1923	1924-1928	1929-1933	1934-1938
6.7%	8.2%	6.3%	6.3%

215. *Japan*—Figures for exports to Japan were included with those of China until 1921, but this country has taken up a moderate percentage of the offtake of bags for a number of years. During the period 1929 to 1933, her purchases fell off badly, largely on account of the bad condition of Japanese overseas trade and, also to some extent, because of efforts to assist her own jute manufacturing industry which was then being developed with the aid of State subsidies. During the last quinquennium, however, she again came into the gunny market and bought more heavily than at any time previously, as will be seen below.

1920-1923	1924-1928	1929-1933	1934-1938
3.7%	3.2%	1.3%	4.9%

216. *Burma*—This country has been for long time, one of the most consistent consumers of heavy sacking bags, which are used in the export of rice, paddy and other agricultural products. The quantities imported annually have seldom varied more than one or two thousand tons either way. But on the whole, the consumption has increased. In view of the markets lost in recent years, this fact is gratifying.

1919-1923	1924-1928	1929-1933	1934-1938
8.6%	8.6%	9.2%	9.3%

217. Exports of jute bags to many countries in Europe and Asia, not specifically mentioned above, have steadily increased over the last twenty years. It may be mentioned in this connexion that consumption in European countries, such as France, Germany, the Balkans and Scandinavia was more or less confined to a few types of sacking bags only and that the volume of trading was never large. In South Africa, Egypt and Portuguese Africa, the trend has been steadily on the up-grade, but in the Dutch East Indies determined efforts to manufacture *rosella* fibre into containers for sugar have been highly successful and

have reduced the exports from India. The proportions of Indian exports of jute bags taken during the last twenty years by countries not included in the above review are as follows:

1919-1923	1924-1928	1929-1933	1934-1938
20.2%	19.9%	25.1%	29.6%

218. (c) *Quality consumption*—Enquiry from a large number of gunny exporters and manufacturers goes to show that the trade in Calcutta does not possess sufficient knowledge regarding the uses for which jute fabrics are employed in foreign countries. Merchants knew more about this matter than mills, but it was evident that little effort had been made by either to find out exactly how the bags or types of cloth they had been sending abroad for years, had been employed, and the meagre information they did have, had been obtained mainly from references made in correspondence. Thus, it would appear that both consumers and producers are working in the dark to a large extent, the former by accepting the better known types of bags and cloth in sizes which they consider adequate for the purpose required, not appreciating the large range of alternative fabrics which the mills are capable of producing and which, in many cases, might be more suitable. It may be said that the manufacturers have had at no time real direct connexions with the consumers of their products overseas, nor has it ever been necessary for them to find markets for themselves. One result of this is that they have not encouraged, to any great extent, enquiries from foreign markets for fabrics of unusual sizes or weights, preferring to accept business for those based on the better known standards. There are of course exceptions, one or two mills being noted for the large variety of cloth of odd widths, weights and count which they manufacture, but of the large majority of mills, it must be said that they follow a very conservative policy as regards the range of fabrics they sell. The mills have so far been in the fortunate position of being able to carry on profitably without the need of making serious attempts to expand their markets overseas but, with the continual efforts which are being made in many countries to produce cloth suitable in quality and price to replace jute fabrics, it is imperative that the industry in this country should adopt a more flexible policy.

219. One point which must not be lost sight of is that, during the present war, European countries which consumed over fifty per cent. of the exports of raw fibre, are cut off entirely from supplies. Simultaneously, tremendous efforts are being made there to produce fibre suitable for cloth production from the fibrous plants available.

Any substantial success achieved will undoubtedly be followed up after the war, and will probably result in a subsequent reduction in their requirements of raw and manufactured jute. If the industry is to expand and capture new markets for its products, it seems desirable that investigations should be undertaken to find out how far existing fabrics and bags can be adapted to other uses, and also how these products can be suitably modified to serve better the uses to which they are at present put.

220. *United States of America and Canada*—As already stated, North America and Canada import mainly hessian and gunny cloth. The reasons for this are two—

- (1) the large variety of purposes for which cloth is utilized, viz. in the form of wrappers, coverings of all sorts, upholstery foundations, brattice cloth for roads, cement cleavage fabric and numerous other uses, and
- (2) because the American consumer prefers to have bags made into sizes to suit his own particular requirements. To meet this demand, a large number of concerns are employed only in bag making, which buy cloth of suitable width and weights and make it up in accordance with consumers' wishes. Coupled with this section of the trade, mention must be made of the colour printing and branding done in this country, attractive designs and trade marks being stamped on the bag. This class of business is done principally with wheat and light cereal wholesale and retail distributors, and hessian cloth of good colour is customarily used for this purpose.

Sacking cloth is generally used for packing and wrapping heavier articles and commodities. Bags for large type seeds and grains are made up according to sizes required by users, as indicated above. In comparison with the heavy purchases of cloth, sacking bag shipments to the States are relatively small. They constitute about 5 per cent. of the total gunny bag exports from India, and are composed of good quality twills, such as Liverpools and A. Twills, Cuban Sugar Bags and the better types of D. W. Bags. In America the heaviest period of buying is from July to September, corresponding to the principal harvesting months. There is, however, a steady demand for practically all lines throughout the year. In Canada the highest demands are experienced from January to March and June to September with moderate dealing during the remainder of the year.

221. *United Kingdom*—Much of the cloth shipped to the United Kingdom is re-exported to North and South America and some

European countries. The main demand of that country is for hessian bags used for the carriage of light cereals, chaff, grass seeds and other produce of a similar nature. A fair quantity of standard B. Twills, Liverpools, Australian Cornsacks and D. W. Flour Bags are consumed by wheat and flour millers, as also by grain farmers. Dundee, of course, meets the greater part of the country's requirements, particularly of cloth for special purposes, such as upholstery work, cloth for the building and tailoring trades etc. The United Kingdom buys steadily throughout the year and has no particular seasonal demand.

222. *Argentine*—One of the principal purposes for which jute goods are used in this country is to provide wrappers for the meat export trade. This is an extensive business calling for a light hessian fabric, having a basic weight of $5\frac{1}{2}$ oz/40". Other uses to which hessian is put are to make containers for linseed and maize and some for upholstery and the building trades. Light tarpaulin is used for packing sugar, or other small grained agricultural produce for retail distribution. The type of bag having the largest sale in the Argentine is the Standard Cuban Sugar. July to October is the heavy buying period for eleven porter hessian, used as produce containers ; nine porters have a season from October to January.

223. *Chile & Peru*—Moderate quantities of hessian are taken by these countries and used generally as packing material for light weight commodities and articles. A fairly large business is done in sacking products, including light E. Bags, Ore pockets and Nitrates. The latter are utilized in the carriage of fine grade ore and fertilizers respectively. Purchases are of fairly even distribution throughout the year, being regulated to some extent by the fact that there is only one ship every three months from Calcutta.

224. *South Africa*—South Africa takes cloth of widths ranging from 40" to 72" in both light and heavy hessian. This is used for a variety of purposes, including fruit drying and a considerable quantity is made up into bags of suitable sizes to meet consumers' needs. A fairly wide selection of sacking goods is imported by the Cape including B. Twills for potatoes, oats and other large commodities ; Liverpools for wheat and the finer grained produce ; D. W. Salts for salt ; D. E. Wattle Bags for packing Wattle bark ; and a large quantity of Woolpacks. January to June is the heavy period for purchasing bags, but there is also a steady demand during other months.

225. *Australia*—Australia imports hessians of a large variety of widths for general utility purposes. There are several bag making concerns in the larger towns and they cater to the needs of the small and large consumers. The principal lines of sacking fabrics imported

are Cornsacks for which there is an annual demand of over fifty million bags, Woolpacks to carry the large wool crop and Bran Bags for light weight bran and other cereals. The Cornsack season is from August to October and that for Woolpacks from March to May, otherwise demand is fairly uniform.

226. *New Zealand*—The demand from this country is not so great as that of its neighbours, but it takes hessian up to 72" wide and sacking bags for wheat of a size based on standard A. Twills and other products of this class for handling its grain crops. Woolpacks form an important item in its imports and in this commodity the sizes taken range from 42" to 54" × 27" × 27", weighing from 8 lb. to 12 lb. per pack. July to October is the most important buying period, covering the grain harvest; Woolpacks are taken early in the year.

227. *Egypt and the Levant*—The sizes of hessian bags sent to these Mediterranean countries vary from 36" to 50" made from 8 oz./40", standard sizes of eleven porter fabrics and some made from 12 oz./40". The sacking imports include 29" Heavy Cees and Sugar Twills used for sugar and fine grained produce, B. Twills for heavy material and commodities, special Egyptian Grainsacks 60" × 30" for packing coarse grains and seeds, Onion Pockets and Cottonpacks, the names of which indicate their uses. Onion Pockets are taken from January to March, Grainsacks from January to June, Cottonpacks from April to June and other fabrics with fair regularity.

228. *Turkey*—Turkey imports hessian cloth of standard qualities and sizes for general packing purposes, use in upholstery works and lining supports for clothing etc. The principal sacking fabrics used are, sugar twills of the standard size or sugar twill cloth which is made up into bags suitable for the country. Other bags imported are B. Twills and some Grainsacks. There is no particularly heavy period for importing, demand being fairly uniform throughout the year.

229. *France*—Shipments of jute goods to this country are confined to small quantities of B. Twills for the carriage of heavy produce, some D. W. Flour Bags and small lots of other standard qualities. Very small quantities of hessian cloth or bags are taken.

230. *Germany*—Some standard eleven and nine porter hessians are imported by this country, also moderate quantities of Oslo Twill sacking of a special width and count which is made up into bags for fertilizers. There is no special season of heavy demand. Small imports are taken whenever required.

231. *Scandinavian countries*—These countries take fair quantities of Twill sacking cloth which is turned into bags to suit consumers' requirements. Oslo Twill sacking is taken for fertilizers. Hessian bags

of various sizes made from 10 oz. and 10½ oz./40" are imported in fair quantities and are used for packing fish meal. Cuban Sugars, some Liverpools and A. Twills are taken for carrying general agricultural commodities. Imports are fairly uniform throughout the year.

232. *Balkan countries*—The bulk of imports to the countries in south-eastern Europe is made up of sacking bags of various types, such as B. Twills for heavy commodities, Sugar Twills for finer produce, D. W. Nitrates for various types of phosphates, and D. W. Resin Bags and D. W. Salts for packing the commodities after which they are named. Only nominal quantities of hessian of standard sizes are taken for general utility purposes. Demand is regular, there being no heavy season in particular for any fabric used.

233. *Iran*—Iran takes a small quantity of hessian, principally eleven porters of sizes up to 45". In sacking, it imports Sugar Twills and A. Twills for the carriage of general agricultural produce, Heavy Cee Bags for the more coarse and bulky commodities and Grainsacks. Buying is spread out evenly over the whole year, except for Grainsacks which are taken in August and September.

234. *Burma*—This country imports large quantities of Heavy Cee Bags of various sizes to meet the demand of rice exporters. This is the principal line in which it deals, although considerable trade is done in E. Bags for wrapping tea chests, and some hessian cloth, both light and heavy, is taken for general light packing material and other purposes. The demand is fairly uniform being dictated more by price movements in Calcutta rather than by the seasons of harvesting.

235. *Cuba and the West Indies*—Special sizes of hessian bags are a feature of exports to this territory. Sacking bags of several classes are taken. Heavy Cees of 44", 45" and 48" in proportion to the standard size are used for cereals and heavy produce. Cuban Sugar Bags and Cocoa Bags are other important items in the import lists. Imports are to a large extent regulated by the quarterly sailings to this zone but are usually heaviest in the latter part of the year.

236. *China*—China's substantial imports are made up of Heavy Cee Bags and some A. & B. Twills, all used for the transport of cereals and heavy agricultural products. Some hessian is taken of both classes for general packing and other uses. Demand is fairly uniform during the year.

237. *Mauritius*—Mauritius takes a fair quantity of sacking bags for its sugar and corn crops. These are generally A. Twills and special sizes Cornsacks. Other heavy bags are imported in small quantities, and only normal shipments of hessian are made to this island. The

season for both corn and sugar bags is from April to June, otherwise buying fits in with the availability of steamers.

238. *Thailand (Siam)*—Heavy Cee Bags to pack rice and paddy, are Siam's largest individual item of jute goods imports. E. Bags and B. Twills are also taken and a small quantity of hessian of standard sizes completes the list for this country. The important season for trading with Siam is January to June.

239. *Java and the Dutch East Indies*—The bulk of trading with this territory is for A. Twills used for the large sugar crop. Requirements normally amount to about twenty million bags in a year, but within the last decade this has been affected by the introduction in Java of *rosella* fibre and the setting up of two mills to manufacture bags to carry the sugar crop. Some B. Twills and other sacking products, but comparatively little hessian cloth, are also shipped. The principal buying months are from January to April.

240. *French Indo-China*—French Indo-China takes principally bags of the ordinary sacking types, i.e. Heavy Cees for rice and paddy, Light Cee Bags and E. Bags for maize and other cereals. Exports are not heavy and most of the trading is done for deliveries during the first six months of the year.

241. *Strait Settlements*—The Federal Malay States and area adjacent to them consume large quantities of jute fabrics, principally Heavy Cees and B. Twills for rice and paddy, A. Twills and Sugar Bags for sugar and small produce. This is an important market for sacking goods; its imports of hessian, however, are nominal, the type of cloth in demand being of the standard counts of nine and eleven porters.

242. *Japan*—The trade in jute goods to this country is principally for Heavy Cees, used for the carriage of Soya beans, and A. Twills sent to Formosa for the sugar crop. It seldom takes hessian, preferring the products of its own mills. The busy season for bags is June to September or sometimes up to November.

243. *Brazil*—This country takes a fairly large quantity of raw jute from which it manufactures cloth and bags particularly for coffee and other exportable products.

D. CLAIMS & ARBITRATIONS

244. When a claim against non-performance of contract quality, packing, weight and/or condition or other alleged faults is made by an overseas consumer, it must be lodged with the Calcutta shipper within twenty-one days of the final date of discharge of the steamer

which carried the goods. The complaint which is usually transmitted by telegram in the first instance describes the condition of the goods and the amount of the claim made, the latter being quoted at so much per hundred yards or per hundred bags for hessian or sacking respectively. The Calcutta shipper refers the matter to the mill and tries, if possible, to obtain an amicable settlement, but should the manufacturer refuse to treat with the buyer, the dispute is then referred to arbitration. The primary condition governing arbitration on fabrics is that two intact bales of the lot under dispute must be returned to Calcutta, the bale numbers being chosen at random by the Tribunal of Arbitration of the Bengal Chamber of Commerce. On arrival they are taken to the rooms of the Bengal Chamber of Commerce and in due course arbitrated on in accordance with the rules governing the arbitration procedure of that body. Two arbitrators or expert assessors, are appointed by the Registrar of the Tribunal of Arbitration, who carefully examine the contents of the returned bales with regard to the details of the claim made. They decide the amount of award, if any, that should be given and the parties of the dispute are duly notified of the result. As in all arbitrations, the loser pays all charges connected with the case and for jute fabrics these include transportation of bales to Calcutta, amount of award and arbitration fees.

245. Shippers in general do not consider the arrangement for survey and arbitration of jute goods to be satisfactory to them, their chief objection appearing to be that, although there are licensed surveyors in all countries capable of carrying out a complete examination and of assessing the amount of any claim that should be met, it is an accepted condition of a dispute that two bales must be returned to Calcutta. In this connection, it may be said that for raw jute, disputes arising in the case of deliveries to countries in Europe, are arbitrated upon in London, and Dundee also has its own tribunal of arbitration for jute. The decisions taken by these bodies and the awards made are accepted by the trade here and, generally speaking, jute shippers are well satisfied with this arrangement.

246. Gunny merchants would prefer that some procedure of a similar nature should be adopted in the case of jute goods. A further objection to the system of returning intact bales is made by shippers, namely, that in many instances the overseas merchant distributes his entire consignment of cloth or bags to small dealers in lots of two to five bales within a day or two of receipt, and any one of them may lodge a complaint which the principal merchant refers back to Calcutta. If the mill decide to go to arbitration, it is often not possible for the foreign consumer to get two intact bales and therefore he loses

his power to claim. Shippers in Calcutta are authorized to go to any mill to inspect their goods after packing and before shipment but they seldom exercise this right, for if they pass the consignment, they lose the right to arbitrate should a complaint arise. Thus, it would appear that there is considerable room for improvement in the procedure for handling claims on jute goods. Some of the principles governing the conditions of trading overseas in the case of raw jute could also be applied with benefit to the gunny export trade.

E. SUBSTITUTES OF RAW AND MANUFACTURED JUTE

247. *General*—The possibility of substitutes being found which might eclipse the demand for jute and its manufactures is a subject which has been engaging the attention of the industry in India for some time. Reports received by the trade in Calcutta clearly show that many countries are striving to develop indigenous fibres so that containers required for transporting their produce could be locally manufactured, thereby replacing imported jute cloth and sacks. The use of paper as a packing material has already caused a reduction in the exports of jute goods to certain countries, and there are indications that it is increasing in popularity. Cotton also has been substituted for jute to some extent, particularly in North America. However, the resultant loss to the jute trade, though serious, is not comparable with that caused by the bulk handling and transportation systems for grain crops in force in the most important wheat and maize producing countries. It is not a new feature affecting the offtake of jute products—but in the last twenty years it has increased to a great extent.

248. The following notes have been prepared from all the available material in which these competitors for jute are described.¹ They may be classified as under:—

(a) *Fibres.*

(i) *Vegetable*—comprising all fibrous crops from which yarn suitable for making cloth can be produced.

(ii) *Artificial*—produced synthetically.

(b) *Non-fibrous material*, such as paper,

(c) *Bulk handling and transportation* of grain.

(a) *Fibres.*

249. (i) *Vegetable*—There are many fibrous plants, each representing an actual or potential danger to the jute industry in this country.

1. For details see Appendix I.

Several are outstanding, such as cotton, rosella, kenaf and sisal in its many forms, and between them have been responsible for a substantial drop in the exports of both raw and manufactured jute to the countries in which they are being developed. The others, though of only moderate importance so far, have definite potentialities as substitutes for jute, and their future development should be the subject of close study by the trade in India so that all possible measures may be taken to meet the competition they might create once they come into full production.

Cotton—The United States of America, as the largest producer of raw and manufactured cotton, is the country from which the greatest danger may be expected. This does not arise so much from direct competition between the two fibres or fabrics, for in most respects cotton is far superior to jute, but from the continual efforts made by cotton growers and manufacturers to enlist government aid for the purpose of substituting cotton goods for those of jute as far as practicable. In 1938, the United States Government did assist its manufacturers materially by giving a subsidy in the form of paying the market price difference between jute and cotton bale covers. There are also instances of help given in more indirect ways which need not be recorded here. This matter has, for long, been one of considerable political importance, and when one considers the prominent position of cotton trade in the economy of the States and the many years during which surplus stock have been left on the hands of producers, the official reaction becomes clear. Thus, there are indisputable indications of the danger to jute trade from this direction.

Rosella—This plant did not emerge as a serious competitor for jute until about 1934 when the Dutch in Java succeeded in their long sustained efforts to extract fibre from it of a quality suitable for yarn production. They followed up this success by erecting mills to manufacture cloth. In the last five years, they have gone ahead, aided by government subsidy; and, in 1939, their mills, working at full capacity, turned out over three million bags for packing sugar. This is a direct loss to the jute trade and one which it is doubtful to make good. The above figure represents about 15 per cent. of the average yearly shipments of bags to Java.

Kenaf—This coarse heavy fibre is grown in certain parts of China and Manchukuo. It is mixed with jute and made into cloth and bags for packing the large rice and soya bean crops of these countries. It is understood that the cultivation is increasing year by year, and with improvement in quality it will ultimately replace jute entirely.

Sisal—Italy is the principal country in which the most serious attempts to use sisal in place of jute are being made. This country

has for some years been endeavouring to attain self-sufficiency in the production of fibres suitable for cloth making. It is not possible to state the extent of success already achieved, but one disturbing feature as far as jute is concerned is evident from the fact that in 1938-39 Italy's imports of that fibre were lower by 20 per cent. as compared with the average for the previous ten years. Other factors undoubtedly played an important part in this decline, but reports received by shippers in Calcutta indicated that wherever possible, jute was being replaced by sisal-hemp. Italy and her colonies figure prominently as producers of fibrous crops.

250. (ii) *Artificial fibres*—Germany and Italy are the two countries where determined attempts are being made to produce synthetic fibres capable of replacing jute. It would appear, however, that these had not assumed great importance up to the time war was declared in 1939, but they now figure prominently in the economy of these two countries.

(b) *Non-fibrous material.*

251. *Paper*—It is the only material which comes under this category. The quality used to make bags suitable as containers for agricultural, mineral, and industrial products is of a particularly tough and heavy type. It was first produced in Germany, but was not developed to any great extent until the war of 1914-18, when the need for packing materials had to be met out of the commodities produced in the country. The German name, '*Kraft-Papier*' (strong paper), has been adopted to describe it in all countries where it is now manufactured. Germany itself uses it in great quantities, and now that the war has cut off her jute supplies, the production of this paper must have increased considerably. Further, the Indian trade lost a substantial outlet for jute goods when Brazil and Argentine began to import *kraft-paper* bags for the internal transportation of cement. This loss, which has never been recovered, was estimated at over twenty-five million bags per annum. There are now two or three factories manufacturing these containers in South America. Australia has, in recent years, taken up the production of paper containers for cement and a fairly large proportion of the quantities consumed in the country is carried in this way. This represents a substantial loss to the jute trade in India and is unlikely to be ever made up. Again, in France, several large paper mills have taken up the manufacture of *kraft-bags*, which are gradually replacing jute for packing many commodities including potatoes, grain, cement and various mineral products. There must have been a large increase in the uses to which these bags have been put since France was cut off

from its supplies of jute, and the problem arises whether India will be able to regain her markets in this country after the hostilities cease. It should be added, however, that there are many commodities which cannot be packed well in paper bags.

From the above it will be clear that paper ranks as one of the most important competitors with which the jute trade has to contend, and every possible means of meeting this competition should be explored by the industry in India.

(c) *Bulk handling and transportation of grain.*

252. The system of bulk handling grain was introduced in the Argentine as long ago as 1881, but details are not available to show how it originated or to what extent it was developed at that time. North America adopted this method of handling some time about the end of the nineteenth century, Canada in 1901, Brazil some years later, Australia in 1916, South Africa in 1924 and Soviet Russia in 1927. Thus, it would appear that all important countries producing wheat for export have adopted this practice, which has resulted in reducing the offtake of jute bags to a considerable extent.

253. The general organization of the system may be described briefly. First, the farmer constructs a silo, a large cylindrically shaped airtight bin in which he stores his grain until such time as he desires to sell. At the time of marketing he takes it in bulk, if he has a suitable conveyance, or in bags to the nearest collecting station where it is cleaned, graded and weighed before being deposited into one of the many bins of storage tower, or, as it is generally termed, 'elevator'. All grain of the same grade belonging to different owners is merged together. From the country elevator, it is mechanically transferred to railway box cars and transported to the shipping ports where it is again placed in bulk storage until the time arrives for shipment abroad. It is loaded on ship-board through mechanically operated chutes and conveyed overseas to ports equipped with elevators and mechanism to unload direct from the holds. Thereafter, distribution is either in bulk form, or in bags. The scope of this system in each country, as far as is known, is as follows:—

SOUTH AFRICA	1937-38	35 country elevators and 2 terminal elevators, with a total capacity of 182,950 tons.
CANADA	1937-38	5,856 elevators, having a capacity of 422 millions of bushels.
ARGENTINE	—	Latest information not available, but it was known to have at least 2000 elevators, handling wheat and linseed.

UNITED STATES OF AMERICA	1938	From 25,000 to 30,000 country and main line elevators, having an over-head capacity of about 800 million bushels. In addition, there are 496 terminal and sea-board elevators having a capacity of 300,000 tons.
BRAZIL	—	About 1,000 elevators, but information is not forthcoming about types and capacity.
RUSSIA	1937	The number of country elevators is not known, but terminal and sea-board elevators have a capacity of over 180,000 tons.
AUSTRALIA	1938	This country is expanding its elevator system fast. In 1931-32, the total capacity was about 560,000 tons, handling only 3% of the crop. In 1938-39, it had increased to over 14 million tons, handling 75.2% of the total crop.

254. The institution of the grain elevator system does not, however, mean the complete elimination of the bag as a carrier, for extensive as bulk handling methods are, there are many hundreds of thousands of farmers who will always require bags to store and transport their grain. At the other end of the chain, bags will always be needed in large quantities for final distribution. Nevertheless, the extent to which this system does reduce the demand for jute goods is very considerable, and as it expands the offtake of fabrics and bags used particularly for packing wheat is likely to diminish. The obvious course for the jute industry is to develop new uses and markets, for, as each year passes, science and industry combined, are steadily finding methods of producing new fabrics or, as shown above, developing means of transportation which will reduce the all-round usefulness of the jute bag as the world's carrier.

CHAPTER V

JUTE EXPORT TRADE

A. JUTE TRADE IN NINETEENTH CENTURY

255. It has already been shown that the export of jute as *pat* was first undertaken in 1793¹ and it is almost certain that before that time it had been despatched from this country under the name of flax or hemp. The first exports of jute, recorded as such, appeared in the customs returns for the year 1828-29 when 364 cwts., i.e. just over eighteen tons, were despatched to the United Kingdom: from then onwards, the demand multiplied itself many times over as the years passed. The United States of America came next in the field, and took their first consignment in 1829-30, but it was not until about 1835 that a steady trade in raw fibre developed. Australia featured in the lists between 1835-36 and 1840-41, but the manufacturing industry there has never gone beyond the production of yarn and ropes, and exports have at no time been large. France entered the market as early as 1836-37, Germany in 1840, and Belgium eight years later, but it was not until power-driven machinery for jute was introduced that a regular demand was established. Arabia, Mauritius, Portugal and Java all figured in the early export lists, but in none of these countries did jute manufacturing ever assume any importance and in course of time exports ceased. Holland came into the trade from 1852, but the industry developed slowly in that country and has never reached a position of prominence. The South American republics began importing jute regularly from 1864-65 and have since then built up a fairly important jute mill industry. Italy, now prominent as a manufacturer of jute goods, entered the field in 1871-72. Of the other countries in which jute goods are produced, China commenced importing as early as 1865-66, Australia in 1869-70, Russia in 1883, Spain in 1895 and the Scandinavian countries from early in the present century. The United Kingdom quickly established a lead over all others in the manufacture of jute goods and, although recently her dominant position has been challenged by Germany, France and to some extent by Italy, she still remains the largest importer of raw jute from India.

1. cf. Chapter I, Sec. B, *supra*.

B. THE ORGANIZATION OF THE INDUSTRY

I. GENERAL.

256. As with many other commercial undertakings, the system of trading adopted for the export of jute was dictated largely by the conditions prevailing in overseas markets. In the absence of authoritative information regarding the methods originally employed in transacting business, little can be written which is capable of being verified from existing records. It would appear, however, that after the Dundee spinners had solved the problems of processing jute mechanically, they opened negotiations with mercantile houses in Calcutta which, in turn, made the necessary contacts with jute sellers in or near Calcutta. Eventually, these became established as jute exporters and loose jute dealers. Several of the former later on enlarged their interests to include the buying of loose jute in the up-country markets, and to facilitate this, opened agencies in several of the principal markets in the *mofussil*, at points where the hand weaving industry was established. The pressing industry, as far as is known, did not come into being until about 1855 and this rapidly became a third link in the chain. With the expansion of the trade and in view of the fact that the majority of loose jute dealers were established in the *mofussil* while the exporters were, in practically all cases, located in Calcutta, it was necessary to find some form of trading that would be suitable for both and this gradually led to the formation of markets and jute bazars at conveniently situated points near Calcutta. The areas selected were Howrah, on the north bank of the Hooghly, and Chitpore, on the south. The loose jute merchants had, therefore, to appoint agents to receive their jute, and to negotiate sales. This form of trading increased to such an extent that by 1850 a large section of the river front was taken up with jute *golas* which were the nucleus of the large markets now established at Cossipore, Bagh Bazar, Chitpore, Shambazar and Hatkhola. Howrah at one period had a large market at Salkia which handled the bulk of the fibre grown in the Hooghly, Burdwan and Howrah districts, but gradually this trade drifted over to the south bank of the river and together with the fibre of 24-Parganas and Khulna was sold exclusively at Shambazar. Thus, a new type of operator entered the trade, i.e. the agent-cum-dealer.

257. At a later stage, brokers, acting as intermediaries between the up-country sellers and Calcutta buyers, became an established part of the trade and are still important in the general scheme of jute dealing. After the introduction of, what came to be known as, 'public marks' (explained later), still more operators made their appearance, i.e. the speculative baler packing to any standard required by exporters

and the baled jute shipper who bought jute ready for export from balers, and despatched it abroad. These various traders gradually settled down in their respective lines of work, and in time, formed themselves into associations for the purpose of the better protection and regulation of their interests. The functionaries in the raw jute export trade are—

- (a) overseas consumers,
- (b) jute balers and exporters,
- (c) loose jute dealers,
- (d) jute brokers,
- (e) *pucca* balers, and
- (f) baled jute shippers.

2. THE JUTE PRESSING INDUSTRY.

258. *General*—There is little information to indicate the form in which raw jute was originally exported, but apparently it was compressed to the smallest size possible by hand, either in the form of bundles or rolled into the shape of a drum. The origin of the hand operated jute press is also obscure, but from trade enquiries and references to old records, it would seem that it was introduced in the trade about the middle of the nineteenth century, and that similar presses or 'screws' as they were then called were used for baling hemp and cotton in Central India. It has been authoritatively stated that the hand baling presses, now used throughout the *mofussil* for making *kutcha* bales, are similar both in construction and method of operation to the old jute 'screws'. Bales packed for export in the 'screws' weighed 300 to 350 lb., and this compares with *kutcha* bales of $3\frac{1}{2}$ and 4 maunds, i.e. 287 and 329 lb. respectively, which have, for many years, been the regular standard for loose jute packing. Though the word 'screwing' is seldom used now to describe the actual baling process, it is of interest to note that several of the old established *pucca* balers still make out their bills for pressing as "screwing charges".

259. (a) *The opening of press houses*—The first jute pressing company to register as such opened its premises at Chitpore (then a suburb of Calcutta, but now chiefly given over to jute bazars and baling establishments) in 1859. This was the forerunner of many others and within a few years, this new industry had taken root, presses being established at Cossipore, Ghosery, Salkia, Howrah, etc., these areas being situated on the Hooghly river and adjacent to Calcutta. As far as is known, it was in 1863 that the first steam hydraulic press was introduced into the trade by a European Company in Salkia. However, the opening of

hand worked press or screw houses, continued during this decade and by 1870 there were about 35 such establishments operating in the Calcutta area alone. The year 1872 saw a remarkable increase in the number of presses in Cossipore and Chitpore areas, no less than 40 being set up. It has not been possible to ascertain the reason for this sudden increase, but it may be surmised that some municipal restriction had been removed permitting their extension. In 1873, it appears that the limit had been reached, there being 81 houses, some having as many as 5 or 6 'screws'. Out of these, 13 were of the hydraulic type. It may be stated that these concerns undertook also the preparation of cotton, hemp and other fibres for export, but it was on jute that they mainly depended for their income. As hydraulic steam presses, with their high rate of outturn, became more numerous, the hand 'screws' gradually went out of use. But it was not until about 1880 that they completely disappeared from Calcutta. The number of companies likewise decreased, and eventually only those firms, which had steam driven pressing machinery, could survive.

The charges for pressing in force during the period 1870 to 1875 were reported to be:—¹

- | | | | |
|----|-----------------------------------|--------|----------------------------------|
| 1. | Hand Screwed bales of 300 lb. | ... | Re. 1-0-0 per bale. |
| | Hand Screwed bales of 350 lb. | ... | Rs. 1-5-0 to Rs. 1-7-0 per bale. |
| 2. | Machine Screwed bales of 350 lb. | | |
| | of jute | ... .. | Rs. 1-8-0 per bale. |
| 3. | Machine Screwed bales of cuttings | | |
| | of 350 lb. | ... .. | Rs. 1-12-0 per bale. |
| | Machine Screwed bales of cuttings | | |
| | of 400 lb. | ... .. | Rs. 2-6-0 per bale. |

260. (b) *Cutting*—It is not known whether the hard woody roots were cut from fibre before export in the early days of this industry, but it is recorded that jute 'screws' could not press fibre which had root still adhering to it and this may have led to the practice of cutting the ends.¹ It is also known that for many years, jute balers threw away the cutting from jute as of no value, also that the first power driven mills could not utilize them for manufacturing purposes. Dundee possessed machinery to work cuttings with other fibre, but it was not until 1871 that the spinners there bought their first lots of cuttings from Indian balers. Thereafter, a steady business developed—first

1. cf. Kerr, *op cit.*

with the United Kingdom and then with America and for many years now cuttings have formed a large percentage of the jute exports to these countries.

261. (c) *Rejections*—As early as 1865, this term was used to describe jute of a low standard, dazed and weak, and containing runners and stick, making the fibre unfit for inclusion in the finer grades. It was classified separately and shipped under the name 'Rejections', and though this practice is still followed the wider range of marks and standards now in force permits much of the fibre, which would have been despatched as being of that category, to be packed under a recognized jute mark, i.e. Hearts.

262. (d) *The evolution of standards and marks*—For thirty or forty years after the first lots of jute were sent to Dundee, it would seem that balers packed only in accordance with the particular requirements of their individual overseas consumers and that there were no common standards of packing. With the expansion of trade, however, the need for standardizing certain grades became necessary and exporters mutually agreed amongst themselves that certain selected marks should conform to the same standards of quality, and that all balers should pack and deal in them. The preparation of common standards for specified marks was a big step forward. Within a few years, the system of selling on the basis of groups of these grades became fairly general. Another important introduction came in 1893 when the Calcutta Baled Jute Association issued its first book of marks and assortments. This consisted of a comprehensive record of all classes and grades of jute, as baled by members of the association, together with the marks they represented. This publication met with the general approval of the trade overseas, particularly from London, and in a relatively short time the powerful Jute Association in that city commenced to classify the Calcutta Baled Jute Association's marks under separate heads according to the guarantee of quality they carried. This was later followed by the introduction of a system whereby the London Association selected a number of marks from each quality class which had proved to be regular in assortment and packing during two successive seasons and which were designated 'actuals', meaning that they were representative of what the actual standard of the mark should be. This group of marks, which is revised every year, is still considered the basis upon which the consumer can regulate his purchases of the more commonly used standards, and a very large percentage of the jute of Continental or Outport grades is sold on the strength of the marks included in the lists—or, as they are termed, 'London Jute Association group'. The

Calcutta Baled Jute Association's annual publication of marks and assortments has steadily assumed greater importance, and the usefulness which it has for the overseas buyer is indicated by the keen demand for it each year from all jute using countries.

3. TRADE ASSOCIATIONS.

(a) *In Calcutta.*

263. There are five associations in Calcutta which are connected with trade in baled jute—

- (i) The Calcutta Hydraulic Press Association,
- (ii) The Calcutta Baled Jute Association,
- (iii) The Calcutta Baled Jute Shippers' Association,
- (iv) Jute Balers' Association, and
- (v) The East India Jute Association.

264. (i) *The Calcutta Hydraulic Press Association* was originally formed about 1880 but, from the first, did not meet with the support of the industry. This is the oldest organized body in the trade, membership being open to press house owners or agents of joint stock pressing companies. Its long existence has been marked with disputes between members, which culminated in its extinction for a period of seven years. This organization was brought into being principally to formulate measures to place the industry on a paying basis. Too many presses had been opened, which resulted in a scramble for business, with pressing rates falling below the actual costs. In the first year, 14 pressing companies joined the Association, but 5 privately owned concerns remained out of it. During the first few years, the Association made strenuous efforts to bring all presses within its membership, and to introduce working arrangements that would benefit the industry as a whole. Rates for pressing were fixed every year, but the outside presses regularly undercut these to such an extent that the Associated Presses had difficulty in obtaining work.

265. In 1888, a scheme was put into effect, whereby all members contributed a certain proportion of their fixed pressing charges to a pool which was to be used as a profit equalisation fund. All contributing presses were allotted shares in the pool, graded according to their normal pressing capacity, and at the end of each season the amount collected was shared out in proportion. There was, however, continual friction between members regarding the allocation of shares and, after four years, the system was discontinued, as disputes arising on this account nearly involved the dissolution of the society. Consequently, there was a serious decline in membership, and the Association's principal function for a number of years thereafter appears to have

been the fixing of pressing charges ; but, this was something in the nature of a dead letter, as both members and outside presses entered into agreements with balers at rates which were in general considerably lower than those fixed by the association after a desultory existence for ten or twelve years, its activities ceased in 1906 as only seven European firms retained membership. It was revived in 1913, largely as a result of a decision taken by the Calcutta Liners' Conference, whereby bale measurement was reduced from 54 to 52 cubic feet per ton of five bales at the time of shipment. All interests connected with the jute export trade combined in an effort to prevail on the shipping lines to revert to the previous measurement. The long drawn out discussions held regarding this matter led to the appointment of a provisional committee by pressing concerns and, ultimately, to the reconstitution of the Association in 1914. For a number of years thereafter, it enjoyed a greater measure of support than at any period of its existence, and in 1917 succeeded in drawing up a standard form of contract to regulate dealings between press house owners or agents, and balers. This contract is still in force.

266. The next ten years did not see much activity on the part of this body: its committee seldom met and the annual General Meetings seem to have been little more than formalities for confirming the pressing rates for each year and appointing the general committee. In 1928, the system of charging a flat rate for pressing was altered and a scale of charges instituted, based on specified quantities at stated rate. Membership declined once more after that year, and in 1937 it included 6 firms representing 10 press houses only out of a total of 46 operating at that time. There had been no attempt for several years to fix pressing rates, and competition was such that balers were able to pick and choose presses to handle their jute at charges far below those prevailing formerly. The position in 1938 was such that a few presses found it cheaper to remain closed than to operate at the existing rates. In 1939, however, the Committee formulated a scheme designed to rehabilitate the business of jute pressing, and this met with fairly general support. It took the form of a production agreement, whereby a percentage quota would be allotted to each signatory, at charges fixed by the Association after taking into full consideration the advantages or disadvantages of each individual press. The terms of the agreement were considered favourable to the trade in general and, during 1940, practically all pressing establishments joined the Association. The adoption of the Production Agreement has been responsible for reviving the Association in a way which few could have expected, and it is now an active body enjoying a large measure of confidence and support from its members.

267. Consequent upon the acceptance of the Agreement, it was found necessary to effect a change in the structure of the Association in relation to its members. This led to a partial reconstruction of the constitution, and *inter alia* an amplification of its objects which are now as follows:—

- I. (a) To protect, forward and defend the trade interests of its members.
- (b) To impose restrictive conditions on the conduct of the trade.
- (c) To adjust and/or control the production and working of the Jute Press Houses in the Membership of the Association.
- (d) To secure by agreement advantageous terms from balers in relation to baling in Jute Press Houses.
- II. (a) To protect the members of the Association against competition.
- (b) To secure the enactment of legislation beneficial to the trade.
- (c) To secure the repeal of any legislation or prevent the passing of legislation which is damaging or may in any way damage the trade.
- III. (a) To collect, classify and circulate statistics.
- (b) To adopt common forms of agreements.
- (c) To establish funds for the purposes of the Members.
- (d) To assist or amalgamate with other associations or societies or federations of associations or societies, having for their objects or one of their objects the promotion of the interests of the jute trade.
- IV. To do all such other lawful things as are incidental or conducive to the attainment of the above objects or any of them.

268. (ii) *The Calcutta Baled Jute Association*—In 1888, an organization was formed, for the purpose of checking speculation in the baled jute trade, under the name of the Jute Balers' Association. It was a very active and important association and it served a useful purpose for a year or two, and succeeded in reducing the speculative activities of many merchants by the application of some form of restriction in dealing. Subsequently, however, the association was neglected by its members. Some merchants, however, who had been instrumental in forming the original association, felt that there was a genuine need for placing the trade generally on a sounder basis, and a meeting of interested parties was held in the rooms of the Bengal

Chamber of Commerce in May 1892. It was then decided that a new association should be formed, composed of members representing all baled jute trading interest, i.e. shippers, brokers and balers, and a provisional Committee, consisting of two members from each section, was appointed to frame the constitution of the new association and to draw up an equitable form of contract to govern all dealings in jute exports in (1) Baled Jute, (2) Jute Rejections and (3) Jute Cuttings. The association was duly constituted in August 1892, under the name of the Calcutta Baled Jute Association and held its first General Meeting on the 24th day of that month, when it was announced that 63 firms had become members. At the same time, the Contracts prepared by the Provisional Committee were accepted. It may be mentioned that, with the exception of a few minor alterations, necessitated by the changing customs of the trade or for other important reasons, the terms of the contracts have not materially changed since they were first formulated nearly fifty years ago.

269. The new Association was supported from the start, and followed up its successful début by publishing in 1893 a book of marks in which the members recorded the qualities they baled and the marks under which they were packed. This was widely appreciated by the trade, both in India and abroad, and the succeeding years saw this publication assume a position of considerable importance in the marketing of baled jute. Membership increased steadily, and soon very few of the firms having any connexion whatever with the *pucca* baling industry stood outside the Association. The list of members in 1894 included 27 shippers, 8 shippers and balers, 28 brokers, and 75 balers. With the steady expansion of the industry and the entry of many new operators, membership increased year by year. In 1922, 266 individuals and firms were registered with the association, and during the last fifteen years this figure has remained fairly steady. The record of the Baled Jute Association in this connexion is one of continued success. Throughout its existence, it has maintained close co-operation with overseas jute trading associations, particularly those in London and Dundee, and it was largely through the expert advice and guidance given by this body that the system of marks and standards under which the bulk of sales abroad have been made for many years, was originally formulated and has worked with conspicuous success.

270. (iii) *The Calcutta Baled Jute Shippers Association*—This association was constituted in February, 1908. Its objects were "To encourage and to secure united feeling and action among shippers, to adopt uniform forms of contract, to obtain the removal of grievances, to arbitrate on matters of dispute other than those provided for under

the rules of the Chamber of Commerce and to do such other things which are conducive to the interest of the members of the Association in particular and the trade in general." Originally it was composed of 19 members. Although a minor organization supported by the merchants who bought their requirements from balers for shipment overseas, the Association has served a useful purpose for more than thirty years, and has at all times received a fair measure of support from the section of the trade it represents. The problems with which it has to deal are, to a large extent, those which confront the trade as a whole and, as a result, its activities are closely bound up with those of the more important Baled Jute Association. All members of the Shippers' Association also belong to the latter. It was reconstituted in 1924, and registered as an incorporated company (limited by guarantee) in 1926. It had a non-profit sharing basis, and was established with the object of promoting and regulating the shipping of baled jute in the interest of its members. Matters concerning freight, shipment, storage, arbitrations overseas and questions connected with marks shipped against the London Jute Association's Groups are frequently the subject of representation on the part of the Association to the various authorities and baled jute interests concerns. By 1925, its membership had increased to 25, but in recent years there has been a decline in numbers as some of the firms have retired from the jute exporting trade. In 1939, there were 14 member companies, all European.

271. (iv) *Jute Balers' Association*—This body originated in 1909, its object having been to promote the trade in jute in India. Membership, though open to all firms carrying on business in baled jute in Calcutta, has been almost solely confined to Indian *pucca* balers and it is with their problems that it mostly concerns itself. All trading between members is done on the Calcutta Baled Jute Association's forms of contract and disputes and arbitrations are decided in accordance with the rules and regulations of that body. Membership, which has varied from 15 in 1909 to 60 in 1925, was 42 in the year 1939.

272. (v) *The East India Jute Association Ltd.*—This is an association dealing with 'futures' trading in raw jute, the basis of transaction being *pucca* bales. Full details have already been given in the First Report on the Marketing of Jute. It may be added, however, that on 21st August, 1939, the Government of Bengal issued an Ordinance fixing the minimum price for raw jute in the futures market at Rs. 36 per bale of 400 lb. net. Soon after that, war broke out in Europe and the prices began to advance rapidly. But the reaction came in January, 1940, and the prices adopted a downward trend.

which continued in the subsequent months. As a result, another Ordinance called the 'Bengal Raw Jute Futures and Hessian Cloth Futures Ordinance 1940' was promulgated by the Government of Bengal on 18th May 1940, fixing the minimum prices of one bale of raw jute (of 400 lb. net) and 100 yards of 9 porter hessian at Rs. 60 and 13 respectively, while the maximum prices for the two were fixed at Rs. 90 and 21.

Another development took place in October 1940 when, at the request of the Government of Bengal, Prof. John A. Todd arrived from Liverpool to undertake an enquiry into the working of the Jute Futures and Hessian Futures markets in Calcutta. An interim report was issued by him in January, 1941, making many tentative suggestions.

(b) *In Foreign Countries.*

273. A number of trade organizations have been formed in foreign countries but the most important are those established in Great Britain. (i) *The London Jute Association*—This Association was founded in 1875 and incorporated in 1911. Its aims and objects are, briefly to support, protect, and enhance the jute trade and to promote, in connexion therewith, equitable and uniform commercial practices and usages ; to encourage and secure united feeling and action among all engaged in trade in the raw material and manufactured article ; to encourage the settlement, by arbitration, of all disputes, and for this purpose to appoint arbitrators and umpires ; to confer and communicate with all public bodies.

(ii) *United Kingdom Jute Goods Association*—This Association was incorporated in 1909, and is rather different from similar bodies, in that it is divided into three spheres of influence—London, Dundee and Liverpool—each with its Secretary and Board of Directors. The objects of the Association are to regularize and control matters dealing with the purchase and sale of jute goods in the United Kingdom. The contract used conforms to that of the Calcutta Jute Fabric Shippers' Association, with some additional clauses relating to local requirements.

(iii) *Association of Jute Spinners and Manufacturers, Dundee.* The objects of the Association are, briefly—"to promote, maintain and safeguard the interests of those engaged in the industry, to foster friendly relations between employers and work people and to secure mutual support and co-operation." The Association deals with all matters affecting the general interests of the jute industry in Great Britain, including legislation, national or local. It undertakes all work necessary for promoting employers' interest on the Jute Industry Trade Board (Great Britain), and is affiliated to the National Confederation of Employers' Organization and the Chamber of Commerce. The work

of the Association is carried out by its General Committee, assisted by various Standing and *ad hoc* Committees.

(iv) *Jute Importers' Association Ltd., Dundee*.—This is an organization promoted to look after the interests of importers of raw jute in Dundee.

(v) *Dundee Jute and Linen Goods Merchants' Association*.—This Association deals with matters affecting raw material, arbitration, contracts, etc.

(vi) *Union des Tisseurs de Jute, Belgium* (Union of Jute Manufacturers).—This body is in effect a cartel, and represents 9 of the most important jute manufacturers in Belgium, who carry out their sales through a single selling organization.

(vii) *Union belge des Filateurs de Lin Chanvre et Jute, Belgium* (The Union of Linen, Hemp and Jute Spinners).—Functions not known.

(viii) *Vereeniging von Importeur und Exporteur von Jute-producten, Holland* (Association of Importers and Exporters of Jute Products).—This body has as its principal purpose the guarding of the business interests of its members in the widest sense of the word. It takes the initiative in operations that might improve the trade in used and/or new bags.

(ix) *Berufsverband der Deutschen Jute-Industrie, E. V.* (The Society of the German Jute Industry).—This is a trade federation serving the common interests of the German jute industry, mediating between its members and the authorities and acting on behalf of the employers' interests.

(x) *Gesellschaft des Verbands Deutsches Jute Industrialler* (Union of German Jute Industrialists).—This is an Association of German jute manufacturers, whose membership in 1930 consisted of 24 mills. It protects the interests of the manufacturing industry.

(xi) *Vereinigte Ostereische Jute Industrialler* (The Union of Austrian Jute Industrialists).—This is an association of manufacturers and merchants formed in 1899 to protect the interests of the trade. It was reported to be functioning in 1938.

(xii) *Jute & Gunnies Importers' Association of New York*.—The Jute and Gunnies Importers' Association was founded in 1922 to promote the interests in the United States of the importers of jute and its products. Any individual firm or corporation having a place of business in the U.S.A., or any authorized agents of Calcutta or European shippers actually engaged in the importing of jute and gunnies, but not in the manufacture of such imports, is eligible for membership.

CHAPTER VI

THE MARKETING OF JUTE FOR EXPORT

A. FUNCTIONARIES ENGAGED IN THE TRADE

274. *General*—The development of the trade in raw jute from a business of little more than local consequence to an industry of world-wide importance has already been described as also the gradual evolution of the system which now governs the marketing of *pucca* bales, and the various organizations which have been formed to regulate the conditions of trading and to protect the interests of those operating in the industry. The operators in this country are of four classes, as under:—

- (i) Balers and Exporters,
- (ii) Hydraulic Pressing Concerns,
- (iii) Baled Jute Shippers, and
- (iv) Brokers.

There is also a small number of balers who operate in the Calcutta market only. They either own or rent press-houses, and bale the more common types of 'Public Marks' which are offered for sale to shippers. At one time this class of business was fairly extensive, but in recent years these balers have gradually entered the field of export trading and the majority now have selling agents in the principal Continental countries. The methods of working of the various functionaries have changed little over the last century and are described in the following paragraphs.

I. BALERS AND EXPORTERS.

275. These are merchants engaged in the jute exporting trade who may own or rent baling premises. They are also sellers of *pucca* bales to mills and to shippers, packed to the standards of their recognized marks in Calcutta, also act as Managing Agents for press house companies.

2. HYDRAULIC PRESSING CONCERNS.

276. The history of the Calcutta Hydraulic Press Association has been given in the preceding chapter. Now there are 34 Jute Hydraulic Companies in the Calcutta area. Many are privately owned, others are Joint Stock Companies under the management of agents. Their function is to hire or rent premises having facilities and equipment necessary to import loose jute, to assort and pack it into *pucca* bales and to store

and export it as and when necessary. Their liabilities and costs of operation are discussed in a later section.¹

3. BALED JUTE SHIPPERS.

277. These merchants deal with overseas markets either in public marks, or in standards packed to their own specifications. They neither own nor hire pressing establishments and obtain their requirements from balers. The system of working followed by these dealers is explained in a later section of this report. Their turnover is not large, and amounts to only 8 or 10 per cent. of the exports.

4. BROKERS.

278. Jute brokers operating in this market must possess a sound working knowledge of both loose jute and *pucca* bale standards. Through continuous handling of jute, and setting and regulating standards of packing, the average jute baler acquires experience in assessing the quality of fibre from all districts. He is, therefore, extremely careful, when buying, to choose loose jute from centres which can supply qualities suitable for the type of baling his contracts call for. Loose jute merchants and brokers must cater for this specialized demand and procure the fibre required. When dealing in *pucca* bales between balers and shippers, the broker must be familiar with the qualities guaranteed under the marks he sells and, in addition, keep his clients well informed of the volume of trading in this particular market. The following fees are paid to brokers:—

Loose jute—direct sale from dealers to baler	...	1	p.c.
Sale on principal contract	...	1½	..
Pucca bales (jute)—from baler to mill	...	1	..
From baler to shipper	...	¼	..
Pucca bales (cuttings)—baler to mill or shipper	...	1	..

B. METHODS OF DEALING

I. BUYING OF LOOSE JUTE.

279. (a) *From Calcutta merchants and brokers*—A large percentage of jute fibre sold for export belongs to the qualities produced in North Bengal and the 'Daisee' growing areas. In the case of the former, balers purchase largely from European and Indian merchants as well as in the Calcutta markets—Cossipore, Chitpore, Hatkhola and

1. See Sec. D 3 (f), *infra*.

Fulbagan. 'Daisee' is dealt in at Shambazar,¹ or is obtained direct from *beparis* after inspection. East Bengal fibre is bought either from merchants direct, or through brokers, all of whom are members either of the Calcutta or Bengal Jute Dealers Associations. For all purchases made through these bodies, the baler uses either the Indian Jute Mills Association's or his own private form of contract. The latter is reported to be used less than in the former years, and the bulk of trading is conducted under the conditions of the Mills Association's contract.

(b) *At Calcutta markets*—Bazar purchases at Cossipore or Chitpore are invariably for spot delivery in *kutch* bales, assorted into the recognized grades, bought after inspection on the *tale quale* system, which may be roughly interpreted as 'seen and taken at its face value without the right of claiming'. In some instances, however, balers obtain small allowances after delivery, but these are in the main given by the 'seller' of his own free will and perhaps to preserve his connexion with the baler. Any lots bought in this manner are weighed in at the press and invoiced by the 'seller' at the weight noted on the receipt granted by the baler. At Shambazar, where all imports are of 'daisee' fibre, packed in drums, and also at Hatkhola and Fulbagan, the system of selling is somewhat different. Weighment is made in the bazar by the baler's own staff at the time of delivery and the jute is invoiced and paid for accordingly. All purchases are spot and under the *tale quale* system.

(c) *At Press-houses*—A considerable quantity of 'daisee' fibre is sold direct at the presses, usually by *beparis* having a good sales connexion with the baler and who know fairly well the class of fibre the press usually takes. The *bepari* customarily collects a few cart-loads of the type of jute he knows he can dispose of, makes it up into roughly selected drums, and offers it to his clients. If it proves suitable on examination and the price is right, it is unloaded, weighed in the presence of the seller and paid for on the spot.

2. SALES OF PUCCA BALES.

(a) *General.*

280. A jute exporter works either through agents in the principal consuming markets or direct with the actual consumer. Trade with the Continent is usually conducted through a firm of representatives stationed in London who in turn have sub-agents stationed in the countries in which there are mills. Other exporters have their agents in the principal import centres only. All important Indian exporters

1. Detailed information concerning terminal markets is given in the *First Report on the Marketing and Transport of Jute in India, 1940, page 87 et seq.*

have agencies in Dundee and, in addition, there are many firms engaged in the buying and selling of *pucca* bales. These merchants have their own association and a form of contract under which the bulk of jute shipped to Dundee is sold. In North and South America, agency houses handle the majority of deals on behalf of Indian shippers though some business is done direct with consumers. New York has a strong association of dealers concerned in the jute and fabrics trade.¹ Members of the Burlap and Jute Association buy and sell for the most part under their own form of contract. The initiative for trading lies mainly with the exporter in this section of the industry. He must keep his agents well supplied with offers of lots which can be closed on the spot. This means that the baler takes a heavy market risk at all times, and as most of his offers are firm they are binding upon him, irrespective of the state of the market. After the acceptance of a telegraphed offer, a contract is passed, the form used being that in force for the particular market in which he is dealing. The baler's agent, in turn, keeps his principal posted in regard to conditions in his area, trend of prices and demand and, of course, transmits all business consumers may offer, specifying the marks required, any special conditions and the prices offered. Payment is effected in accordance with the terms laid down in the contract form used.

(b) *Calcutta sales.*

281. (i) *Under Indian Jute Mills Association Contract*—When Calcutta mills or shippers are in the market for *pucca* bales, their requirements in regard to quantities, qualities and prices are submitted to balers by jute brokers. Should the business be attractive enough, it may be closed at once or, if the price or some condition asked for is not entirely satisfactory, a counter-offer is made which, if accepted, results in a sale. Such business is always confirmed in writing by the broker who also passes the contract form, which in all cases is that issued by the Indian Jute Mills Association, the terms of which have already been noted.

282. (ii) *Under Calcutta Baled Jute Association Contract*—For sales between *pucca* balers and baled jute shippers for export goods, all trading is done under the conditions laid down by the Calcutta Baled Jute Association in their contract forms of which there are three:—

- Baled Jute No. 1
- Baled Jute No. 2 Rejections
- Baled Jute No. 3 Cuttings.

1. The Burlap and Jute Association was founded in 1923 to promote the interests in United States of the importers of jute and burlap (hessian).

The general terms governing sales under these contracts are similar, the only notable difference being in the definition of the quality dealt in. No. 1 contract covers the delivery of the average standard of the grade, free from Bombay quality and Rejections, and roots to be clean cut. No. 2 stipulates that the bales of Rejections delivered should be packed up to the standard of the mark indicated in the contract, guaranteed free from Cuttings, sound, dry and in marketable condition. No. 3 contract is used for the sale of jute Cuttings, free from 'dowrah', 'daisee', cinders and godown sweepings, sound, dry and not horizontally pressed, of the standard quality of the mark as indicated. Damage through press cutting is considered under the heading of quality. Should the quality be found inferior to the standard and proved to be so by arbitration, buyers have the option of either cancelling the contract at one rupee per bale over the market rate ruling on the day when the inferiority is acknowledged by sellers or the day when the final award in arbitration is issued, or demanding a fresh tender at the contract rate. These provisions are operative in all cases except when a 'Home Guarantee' has been given by sellers to buyers.

283. The contract stipulates that buyers must arrange for weighing and measuring bales at time of export, and a certificate issued by the Licensed Measurers Department of the Bengal Chamber of Commerce is accepted as proof that the goods are in accordance with shipment sizes. Measurement is guaranteed by the sellers not to exceed 52 cubic feet per ton of five bales at the time of delivery from the seller's Press House or 54 cubic feet per ton alongside the exporting vessel. Buyers must issue shipping note not less than three clear working days before placing the goods alongside. Examination of jute may be carried out at the time of shipment at a place decided by buyers. Not more than three per cent. of the bales may be opened for inspection and, if passed by buyers, the seller's responsibility ceases on delivery of mates or dock receipt, except where a Home Guarantee is given.

Terms of payment: Cash on delivery of Mates Receipt or Dock Receipt. Failure to give shipping instructions, to take delivery or to make payment gives the seller the power of either cancelling the contract, selling against buyers in the open market, or charging the buyers for the difference between contract and market rates on the day on which the option is declared.

Arbitration: In the event of disputes arising which cannot be composed amicably, arbitration is carried out in accordance with the rules and bye-laws of the Association.

*Home Guarantee:*¹ This is a letter passed by the seller in which

1. A specimen copy of a Home Guarantee Form is at Appendix J.

he guarantees that the jute delivered against a specified contract is fully up to the standard of the grade of the London Jute Association Groups in which the mark is included. He also agrees to accept any award in arbitration at the port of London or Dundee if this is stipulated at the time of purchase in respect of the mark.

(c) *Sales Overseas.*

284. (i) *London and the Continent*—A large percentage of the jute sold in London is for delivery to Continental countries. The bulk consists of public marks of the usual North Bengal standards of quality, listed in the London Jute Association's Group. This Association has its own form of contract which is used for all sales made for marks included in these groups and gives a baler the option of delivering any of the 'actual' marks listed ; or, should the contract be for London Jute Association 'substitutes', any mark registered with the Calcutta Baled Jute Association may be delivered. The contract calls for delivery of jute guaranteed to be of average quality of the mark specified and lays down a series of allowances to be deducted in the event of inferior quality being delivered. These allowances are graded according to the extent of inferiority as determined in arbitration and cover all classes of jute tenderable under the London Jute Association's contract. If the inferiority is judged to be as high as twenty shillings or five per cent. per ton, the buyer has the option of invoicing back the consignment to the seller and recovering from him a price equal to ten shillings per ton above the market value of the quality contracted for, on the date of final arbitration award. All charges incurred at the port of discharge, for landing, warehousing and insurance are paid by the seller to the buyer. Payment for the consignment is made by the seller or shipper who draws on the buyer's account at a prescribed period for the full invoice amount less freight, if payable in United Kingdom or, at port of destination. Final settlement is made on the average landed weights, but for jute of Public Marks sold on shipping weights, a Licensed Measurer's certificate must be attached to the invoice. Failing this provision, the buyer is entitled to weigh ten per cent. at the seller's cost and recover from him any loss in weight. The contract also lays down procedure in regard to shipment, unavoidable delays in delivery, terms governing allowance for sea damage and for heart damage, irregularity of outturn and arbitration. On the reverse of this form, the Bye-laws of the Association are printed together with the London Jute Association Insurance Clauses describing the cover provided thereunder.

285. (ii) *Dundee*—The form of contract issued by the Dundee Jute Importers' Association Ltd., is almost identical to that of the

London Association and has the same penalties for inferior quality deliveries, irregularity of outturn together with the option of invoicing back. Procedure in regard to payment, insurance, unavoidable delay and arbitration are similar. The Bye-laws of the Association are quoted together with the London Jute Association's Insurance Clauses and in addition, the Rules and Regulations of the Dundee Association's Tribunal of Arbitration.


286. (iii) *United States of America*—Most of the jute sent to America is of a quality superior to the recognized Public Marks and is composed mainly of good class balers' private marks. Much of it is sold under what is known as the London Terms. Jute Contract of the Burlap and Jute Association of New York stipulates that:—




- (1) Claim regarding quality or condition must reach the U. S. seller within twenty days from final discharge of vessel ;
- (2) Invoice is to be tendered for weight as ascertained by public weigher at destination ; and
- (3) Payment is to be made at invoice rate in New York Funds.

In the case of a dispute which cannot be settled amicably and which is referred to arbitration, a selected number of bales are sent to London for arbitration under the rules governing the London Jute Association's Tribunal of Arbitration. Since the commencement of the war, American merchants have, however, found it increasingly difficult to send bales to London and have requested the Calcutta Baled Jute Association to permit arbitration to be held in that country.

3. VARIETIES AND CLASSES OF JUTE USED FOR EXPORT MARKS.

287. (a) *General*—There are over two thousand *pucca* bale marks each carrying a guarantee of quality registered with the Calcutta Baled Jute Association. These are published annually in book form under the heading of Jute Marks and Assortment which are a valuable guide to the trade both in India and abroad for the purpose of regulating purchases. The form in which this registration is made may best be illustrated in the following manner.

Mark	Assortment	Quality
	2 — 50%	Firsts
	3 — 50%	

Mark	Assortment	Quality
	2 — 50%	Firsts
	3 — 50%	
<i>Or</i>		
	1	
	2 — Daisee, sold separately.	
	3	
	4	
<i>Or</i>		
	2 50%	} Superior Tossa Jute, roots cut.
	3 50%	
	4 Sold separately	
	5 Sold separately	

Though a wide variety and selection of packing is recorded in the Association's book, it does not cover all the qualities baled, nor do all exporters register their marks with that body. A few of the European balers who deal principally in fine grade jute packed under their own marks and guarantees prefer not to have them made public.

288. (b) *Classes of marks*—The marks so published fall within three categories: (i) Public Marks, from which the London Jute Association selects special groups, (ii) Short Groups, and (iii) Private Marks. These Marks may be described as follows:—

(i) *Public Marks* are those qualities and grades registered with the Calcutta Baled Jute Association, which are freely dealt in both in India, and abroad. From these, the London Jute Association selects a number of marks termed 'Continental' or 'Outport' standards which have proved to be regular in packing and uniform in quality for at least two seasons. These are grouped as follows:—

(1) Reds, (2) Firsts, (3) Lightnings, (4) Hearts, (5) Tossa, (6) Daisee. These are listed as the London Jute Association groups of 'actual' marks, and a baler when selling under this category has the option of delivering any mark included in the list. For sales under this contract, where an actual or a named mark is not stipulated, a shipper has the option of delivering any mark registered with the Calcutta Baled Jute Association and classified according to the grade contracted for.

289. (ii) *Short Groups*—These may be described as a few marks selected from the London Jute Association groups, being considered by buyers to be the most reliable. The number chosen to make up these groups is from five to six, and Daisee and Tossa marks in

particular command a substantial premium over the full L. J. A. groups in the United Kingdom.

290. (iii) *Private Marks*—As the name implies these are the baler's own private selections of qualities. They are not usually quoted in the Calcutta market. In this connexion, it may be stated that many good class balers prepare lists, something in the nature of catalogues, in which they describe the quality of fibre they guarantee to pack under each mark. The lists are sent to the overseas agents for general guidance, and also to selected consumers to assist them in deciding the classes of fibre which will be most suitable for the particular types of fabrics, or yarn which they manufacture..

291. (c) *Description of qualities in each mark—Continental or Outport qualities*—These are chiefly made up from selected qualities of the fibre grown in the northern areas of Bengal, Bihar and Assam and constitute the bulk of exports to the United Kingdom and the Continental countries. They are packed according to the variety or type of fibre, that is white jute, Tossa and Daisee and may be described as follows:—

(i) *White Jute.*

Reds 2/3—Jute of fine colour, from cream to near white, clean cut, strong, sound-bodied with fibre of good texture and lustre. (The mark 2/3 is appended to convey that long and short fibre is baled separately, that packed under 3 being long. This is the only difference and unless otherwise arranged, 50 per cent. of each is delivered.)

Firsts 2/3—This class forms the basis of standard qualities in the *pucca* baling industry and is thus the most important of all export grades. The fibre which goes to make up this standard should be of good strength, but not of such bright or high colour of the Red mark, and may contain up to 20 per cent. of light to medium grey coloured jute. It should be well cleaned, free from hard and specky fibre and should have a clean cut appearance. Baled mainly from North Bengal and Assam jute, it may also contain a small percentage of the better Western (Bihar) quality.

Lightnings 2/3—This mark is similar to the above but usually has a larger percentage of gray and dark coloured jute. The fibre may be somewhat coarse and not so well cleaned, having small pieces of stick or pith adhering to it. A fairly high proportion of Western jute is included in this mark.

Hearts 2/3—This is the lowest recognized grade of white jute and may contain fibre from the lower reaches of Bengal, and the poorer Northern and Western areas. It is roughly cut and usually dull

coloured, with a fairly high percentage of weak, hard, specky and leafy fibre.

(ii) *Tossa Jute.*

292. **Tossa 2/3**—The fibre included in this grade should be strong, clean, sound bodied and with fairly clean ends, colour varying from reddish cream to medium gray, but some dark red or gray fibre may be mixed provided it is clean and of good lustre. Jute grown in Jessore, Murshidabad, Rajshahi and Pabna districts provides the bulk of this packing, though suitable fibre from other areas may be included.

Tossa 4—This is below the above assortment and is generally lower in colour, dazed and weaker. The same amount of attention is not given to cleaning and cutting, and it is sold as an overhead selection, not being assorted and baled separately for length.

(iii) *Daisee Jute.*

293. **Daisee 2/3**—Chiefly the product of the districts near Calcutta i.e. 24-Parganas, Hooghly, Howrah, Midnapore, Khulna and lower Jessore this quality is of considerable importance in the export trade, Dundee in particular taking large quantities. Colour is not of major importance and may vary from light silver to dark gray, or from creamy red to brown depending upon the area from which it is drawn and conditions governing its cultivation and preparation for market. It is not cut, the root ends being fairly soft and easy to clean. The chief characteristic of this packing should be soundness of fibre, fine texture in the individual strands and freedom from speck, stick and leaf.

Daisee 4—This is normally jute not fit for inclusion in the above mark and, as in the case of Tossa 4, is not selected for length. It usually contains a fairly large proportion of weak flaccid fibre, often heavily rooted. Daisee has a somewhat striking feature in its capacity to absorb moisture to a greater degree than either white or tossa jute. Much of its fine spinning quality is attributed to this characteristic as it enables the individually fine fibre strands to unite, or pack together better than do other qualities. The above are the qualities which are packed normally for the United Kingdom and the Continental markets, and from which the London Jute Association selects its groups.

(iv) *Dacca Marks.*

294. Fibre from the 'Jat' and good 'District' areas of East Bengal is now usually packed under the mark 'Dacca' and 'Superior District' respectively, though for many years quoted as 'Diamonds' and 'Mangos'. A few balers still retain these

names to describe baled fibre from this area. This class of jute is rarely sold as a 'Public mark' and does not come within the grouping of the London Jute Association. It is almost exclusively used for 'Private marks'; the composition of each mark or standard cannot be described as it differs with individual balers.

Daccas—Principally 'Jat' fibre should be of good length and high colour from almost white to creamy gray heavily bodied, clean and free from speck and blemish.

Superior District—Not having the fineness or lustre of Jat, but of good body and with the individual strands of fibre well defined. Not being so well cleaned as Daccas, it contains a fairly high percentage of the coarse, hard fibre of the lower areas of Bengal, such as Madaripur, Noakhali and Chandpur.

Dacca Tossa—Tossa of fine creamy to golden red colour, strong, well defined fibre strands, clean cut, free from speck, leaf or blemish and of good length goes to make up Dacca Tossa.

Superior District Tossa—Fibre from the good district quality areas such as Chandpur, Madaripur, lower Dacca, Pabna and Mymensingh having fairly pronounced colour, from light golden to brownish red, not of such fine texture as 'Jat' but strong with the fibre strands of good body.

(v) *Cuttings.*

295. The export of cuttings is an item of considerable importance in the trade, and like long jute cuttings are to some extent graded according to their quality. Superior grades of cuttings are sold by all balers, particularly for the North and South American market. These may vary in length from ten to twenty inches or more, and may be considered to assume to some extent the same importance in their own way as private marks. The more commonly quoted types are:

Mixing Cuttings of white jute, cut from Reds, Firsts, Lightnings and Hearts. These are generally dark coloured, hard, and rooty averaging from 3" to 7" in length.

Naraingunge Cuttings—Similar to the above, but as indicated by the name, principally cut from the jute of the East Bengal areas, though a considerable proportion is also derived from Northern qualities. These cuttings are generally longer than the above i.e. from 7" to 10".

Tossa Cuttings—These are snippets and short cuttings from the above Tossa grades—invariably short, hard and rooty—average length 3" to 6".

296. (d) *Dundee Standards*—The requirements of Dundee spinners are specially catered for by the trade in Calcutta. They take an all

round higher standard of quality than is generally found in 'outport' marks, and packing intended for this town is commonly referred to as 'Dundee Standard'. Buyers in other countries when desiring a superior class of 'outport' packing may stipulate that the quality required must be up to this standard.

C. PREPARATION FOR EXPORT

I. LOCATION OF PRESSES.

297. As with the manufacturing industry, the jute export trade has grown up round the town of Calcutta and it is there that the majority of pucca bale press-houses are located. They are concentrated in two suburban areas on either bank of the river Hooghly about four miles above the city, i.e. Cossipore in the south and Salkia (Howrah) on the north bank. A few press-houses are located in large baling centres in the *mofussil*, those at Narayanganj being the most important. Cossipore is the principal centre for jute export baling and in this area alone there are 26 well found pressing establishments, while Salkia has seven. Those situated in the upcountry baling centres are owned and run by baler shippers, and with the exception of two one at Sarisabari and the other at Serajganj are under European control. These are located at the following stations

Narayanganj	...	6
Chandpur	...	1
Sarisabari	...	1
Serajganj	...	1

An American concern, Messrs. Ludlow Company, has a *pucca* baling press at their mills near Calcutta. They, however, purchase and ship jute only to their parent company in the United States. A detailed list of jute presses in Calcutta and East Bengal is given below.

COSSIPORE (CALCUTTA)

Ashcroft Press	Lohia Jute Press
Atlas Press	Luxmi Jute Press
Banktेशwar Hydraulic Press	New India Press
Bengal Hydraulic Press	Ocean Press
Calcutta Hydraulic Press	Ralli Brothers Press
Canal Jute Press	Reliance Jute Press
Central Hydraulic Press	Shiva Jute Press
Chitpore Jute Press	Surah Jute Press
Cossipore Hydraulic Press	Sun Press
Ganges Jute Press	Strand Bank Press
Golabari Jute Press	Union Jute Press
Gouti Jute Press	Victoria Hydraulic Press
Hooghly Jute Press	Vishnu Jute Press

SALKIA (HOWRAH)

Bandhaghat Jute Press	Imperial Press
Empress of India Press	Nasmyths' Patent Press
Ghoosery Jute Press	Salkia Jute Press
Hanuman Jute Press	

NARAYANGUNJ (DACCA)

Ralli Bros.	The Narayangunj Co.
M. David & Co.	C. A. Basil & Co.
M. Sarkies & Co.	G. M. Fogt & Co.

CHINGALI (HOWRAH)

Ludlow Jute Press

SARISABARI (MYMENSINGH)

Cotton Agents Ltd.

CHANDPUR (TIPPERAH)

The Chittagong Co. Ltd.

SERAJGANJ (PABNA)

Cotton Agents Ltd.

2. INTERNAL ORGANIZATION OF BALING PRESSES—IN CALCUTTA.

298. (a) *General*—In contrast to the *kutch*a baling premises found throughout the *mofussil* jute centres, which are, with a few notable exceptions, simply a series of corrugated iron sheds having floors of beaten earth, the *pucca* baling establishments in Calcutta are substantially constructed buildings of brick or stone, enclosed in walled compounds and complete with adequate facilities for transport either by railway or river. Speaking generally, all pressing establishments are similar in construction and a brief description of the lay out of a modern press-house may be of interest.

- (i) *Importing godowns*—First, there are suitably located loose jute godowns in which all fibre received in *kutch*a bales or drums is stored, after being appraised for quality classification.
- (ii) *Assorting godowns*—Adjacent to the above are selecting or assorting rooms, in many cases located in the upper portion of a two storied building, the ground floors being used for storing *pucca* bales.
- (iii) *Pressing godowns*—A building of two flats, in which the hydraulic baling presses are housed, is within easy distance of the assorting rooms.
- (iv) *Rope-alley*—A covered alley or open maidan for rope-making occupies a suitable spot.
- (v) *Power House*—An engine room or electrical power house, from which the motive power for the presses is generated, is conveniently situated.

- (vi) *Offices etc.*—Offices and housing accommodation for permanent staff occupy suitable sites. In one or two cases, balers own towing launches and a fleet of cargo barges used in transporting jute to and from the press-house.

299. (b) *Administration & Staff*—Press owner's responsibilities include the general maintenance of buildings and plant, provision of adequate facilities for his tenant to conduct his business, the employment of requisite staff to work the plant, and the making of suitable conservancy and watch and ward arrangements. Staff may include an engineer with mechanically trained assistants, one or two Indian clerks, general maintenance coolies, door-keepers and sweepers etc.

300. (c) *Press-house labour*—The engagement of labour for importing loose jute, assorting, pressing and exporting is the concern of both the tenant baler and press owner. These workers are for the most part agriculturists who come to the city for a few months each year to work as jute press-hands or in other seasonal occupations. In practically all cases, they are engaged, as necessity demands, through contractors who enter into agreements with the balers and owners to supply the class of labour required, payment being made at an agreed rate per bale pressed. This system of engaging labour has been general for many years and is considered by the trade to be the most satisfactory and economical method of working. In general practice, the baler is responsible for the engagement and payment of:—

- (i) labourers, for importing and storing loose jute.
- (ii) assorters, cutters, necessary coolies and rope-makers.
- (iii) clerical staff, and
- (iv) supervisory staff, which may include a manager and several assorting overseers.

The press owner provides—

- (i) labourers, for baling and operating the presses, and
- (ii) coolies for exporting.

The above may be considered descriptive of the internal organization of those press-house in Calcutta which are occupied on a rental basis by export balers. In cases where a baler is also owner of the press, he is naturally responsible for all items enumerated above.

3. MOFUSSIL PRESSES.

301. Upcountry presses are, as stated above, owned by baler shippers. The lay out of their premises differs from those in Calcutta as, in the first place, they are not compelled through the high cost of land and the limited area available to cramp themselves in any way. The assorting sheds are generally long, single storied structures of corrugated iron sheeting, open to the north so that the best light

possible is obtained. In most cases, the baling godown is a *pucca* building of stone and brick, the rams and pumps occupying the ground floor with the presses on the floor above. Storage godowns are, in some cases, *pucca* built, but in others are of strong corrugated iron sheets fitted over a frame of steel work or heavy bamboos. Staff required for these presses is similar to those in Calcutta. The same system of working through contractors is observed, though it was reported that in the *mofussil*, rates were lower all round. This is natural when one considers the difference in the cost of living in Calcutta as compared with, say, Narayangunj or Sarisabari.

4. PROCESS OF BALING.

302. (a) *General*—A baler's jute purchases are based on (i) the quality of deliveries called for in his export contracts and (ii) his knowledge of the quality produced in the various jute growing districts of Bengal, Bihar and Assam. He is much more selective in his methods of purchasing than the average *kutch* baler in India, as he has to re-assort loose jute into standards of packing which permit of little deviation. He cannot afford to be left with large quantities of low grade fibre on his hands, which he may not be able to dispose of at prices that would be remunerative. Therefore, the average exporter willingly pays a premium for special loose jute selections to ensure a high yield of the particular classes of fibre he requires to meet contractual obligations. It is general for a baler to stipulate that, for ordinary deliveries, the fibre must be up to the Indian Jute Mills Association's loose jute standards.

303. (b) *Importing*—On arrival at the press the fibre is inspected, appraised for quality and stored in the import godown until required for selecting. When the time comes, it is then transferred to the assorting sheds and placed in lots ready for opening.

304. (c) *Assorting*—Assorters work in teams of three or four—comprising one *jachandar* (selector) and two or three cutters. A line mate or *sardar* is in charge, and it is his duty to supervise the work done by the assorting teams and inspect the regularity of assortment, the whole work being under the control of the baler's senior supervisory staff and the manager. Continuous inspection and checking goes on throughout the working period in order to ensure regularity in grading. In a selecting godown, the grading teams are arranged roughly in rows, the selector behind his cutters, each of whom has a 'pattern', i.e. a wooden cutting block, and a hackling board, i.e. a stout wooden slab on which from twenty to thirty sharp steel pins each about ten inches long are fixed. The cutters open the *kutch* bales or drums, remove the *morahs* one by one, inspect the root end and cut off all the hard bark portions ;

thereafter, the lower end of the fibre is cleaned by beating it on the hackles. This action is very important as in addition to cleaning, it serves also to remove small particles of bark adhering to the ends and to soften the semi-stiff portion of the fibre near the roots. The crop end is cut and hackled also if considered necessary. After a rough inspection and removing the lowest quality strands in the *morah*, the cutter twists it together and piles it with other fibre that has been cursorily graded in the same way. The *jachandar* comes into the picture at this point ; he is the actual assorter responsible for classifying the jute according to its grade. He takes *morahs* from the roughly selected piles and after inspecting them begins to form *bojahs*, i.e., twenty-five to thirty *morahs* of identical qualities. Fibre unfit for the top marks goes down to lower grading, and as each *bojah* is completed it is stacked according to its grade for subsequent checking and re-checking by the supervisory staff until it is finally passed for baling.

305. (d) *Baling*—This is the final process in preparing jute for export and consists of packing four hundred pounds of fibre into a size conforming with regulations as laid down in the various jute association contracts. A *pucca* bale of jute when carefully packed is approximately of the following measurement:—

Length 4ft. 1in. Breadth 1ft. 6in. Thickness 1ft. 6½in. and packed to a density of about 43 lbs. per cubit foot. There are two types of presses which are also used in the packing of cotton, flax, hemp, wool, silk, etc. The older type is the "grid" press on which two bales can be dealt with at the same time, but it is gradually being replaced by the new cyclone in which three bales can be handled in quick succession. The first action in making a bale is to feed the required quantity of jute into the box, an oblong shaped steel case 4ft. × 1½ft. × 17ft. deep. This is done while the rams are descending, drawing with them the bottom lashing plate which forms the under side of the box. *Morahs* are placed with their roots and crop ends towards the centre, thus having the round fold on the outside, and when the four hundred pounds of fibre have been fed, hydraulic pressure is applied to the rams which begin to ascend, slowly compressing them into the first revolving chamber. Only moderate pressure is applied at this stage, the chamber containing the half pressed bale is swung to a neutral position between the feed box and the finishing rams. Ropes are then fitted loosely through grooves in the upper and lower lashing plates. When a second bale has been semi-pressed and is engaged fully, the chambers swing round again, the first bale now being above the finishing press, the second ready for lashing and a third in course of filling. Final pressure is applied to the first, the ropes tightened and the process of baling is

completed. With a modern press of this type the outturn can be as high as ninety bales per hour. Three sets of labourers working in teams—the first filling, second roping and the third finishing—are able to pack up to 700 bales in a ten hour day.

(i) *Care in baling*—Considerable care must be exercised at the time of filling to ensure that the *morahs* are evenly and correctly placed in the pressing box. Careless feeding may cause *morahs* to fall over from a horizontal to a vertical position, thereby forming a thick double fold. When severe pressure is applied this is compressed into a hard lump which forces its way through the fibre in the other evenly laid *morahs*. In the case of soft jute this results in cutting, but with hard brittle fibre the damage is more extensive and may affect up to 30 per cent. of the *morahs*.

(ii) *Over-pressing*—This practice is largely attributed to *Marwari* balers and is considered to be one of the major faults in the trade. The measurement called for in all shipment contracts is not more than 54 cubic feet per ton of five bales at exporting vessel. A jute press is capable of packing fibre into a bale of considerably lower cubic measurement than the limit stipulated in shipping regulations and as freight is charged on actual measurement (as certified by the Licensed Measurers Department), there is a temptation for balers to pack to the smallest size possible. Many do so, lowering their pressing rate to 48 and even 47 cubic feet per ton of five bales. The evil does not lie in the endeavour to save freight charges but in the damage that over-pressing does to the fibre. When placed under extreme pressure, jute is liable to cut or break extensively in the centre of the *morahs*. When packed damp, an overpressed bale generate internal heat which causes severe damage to the fibre through rolling. This fault is a common feature of *pucca* baling. It is generally referred to as 'heart damage' and complaints about it are more numerous than for any other reason. It is considered by good class shippers that much of this damage could be eliminated, if proper care was exercised and no attempts were made to over-press.

306. Though built to exert pressure up to three tons per square inch, far in excess of what is required for normal packing, the steady over-pressing done by *Marwari* and a few European press owners has a wearing effect on the massive presses. However, a large maintenance bill on account of break downs or new parts is a small item, when one considers that, in the course of one season a press owner may pack up to three lakhs of bales, making as much as eight annas on each in the form of rebate by reducing the cubic measurement to a low figure. It is reported that in recent years some press-houses guaranteed their tenants to pack down to forty-eight cubic feet and

by this method were able to obtain better terms. It is understood that following a fatal accident at a press-house caused by the partial collapse of a press, the Chief Inspector of Factories addressed a letter to all press owners stating that to apply a pressure greater than what had been considered normal in order to secure abnormally small bale dimensions, was placing press workers in a position of peril and as such was a breach of the Factories Act and liable to lead to prosecution. The press owners and agents within membership of the Calcutta Hydraulic Association as a result of this notice drew up a series of proposals, whereby the limit of bale dimensions should be 52 cubic feet per five bales of jute and 54 cubic feet for jute rejections and cuttings, with a latitude of one cubic foot—namely, jute 51, and cuttings and rejections 53. Balers packing below these statutory dimensions should be liable to prosecution. These proposals should go a long way towards stopping a practice which is detrimental to the trade.

307. (e) *Exporting*—It is the work of the jute exporting coolies to remove bales from the press-house to the storage godowns and subsequently to convey them to the trollies for shipment.

308. (f) *Cuttings*—Small jute butts or cuttings from two to five or six inches in length are seldom selected according to size or quality. These contain a large proportion of hard ends suitable for use in the production of sacking products only. It is customary to collect these small butts in bundles and remove them for pressing. When assorting superior grade fibre, considerable care is taken while cutting it. Waste is avoided but there may be some faults in the strands, such as heavy speck, short runners, severe discolouration at the lower end etc., in which case it may be considered necessary to remove some portion of the fibre in addition to the root. Normally, cuttings from finer grades are over twelve inches long and, when defects as enumerated above are also removed, the length may be up to 24 or 30 inches for well cleaned long cuttings. Cuttings do not make such even and well formed bales as long jute, and though the same weight is packed, the cubic measurement is generally slightly greater, which is important when freight is considered.

D. EXPENSES INVOLVED IN PREPARING AND SHIPPING JUTE.

I. GENERAL.

309. The charges incurred by an export baler in respect of the administration and control of both sections of his business, i.e. as a merchant and as a baler who either owns or hires a press, amount

to a considerable sum in the course of a year. Generally speaking, this expenditure is divided under two heads, viz., standing and working charges. The former include all items of a nature which may not be affected by the quantity of jute packed and shipped,—while the latter are incurred in respect of the handling and movement of fibre bought and sold. An enquiry conducted in the trade has enabled a comprehensive analysis of these charges to be made, and the figures given are fairly representative of the costs incurred by a European exporter, having a turnover of about two lakhs bales annually. The overhead expenses of Indian balers are generally less than those of European.

2. STANDING, OR FIXED CHARGES.

310. Establishment—i.e. the salaries of office and press-house staffs, cable expenses, weighing charges incurred at ports of destination, Licensed Measurer's fees in Calcutta, Association Membership fees, Consular fees, travelling expenses, postage & stationery, audit fees, electric accounts, office insurance, telephone and other sundry expenses are included under this category. They may also include an allotment for interest on loans taken or for other financial arrangements necessary to carry on the business. This depends upon the quantity turned over, the price of jute and likewise the possibility of buying stocks against a probable rise. The above charges were estimated at approximately Rs. 1-4-0 per bale.

3. WORKING CHARGES.

311. (a) *General handling*—These costs are incurred in actual handling from the time of importing jute in loose form until it is exported in *pucca* bales. As has already been stated, workers are engaged by labour contractors who can obtain, as a rule, the services of an adequate labour force at any time. In a press-house, skilled workers are considered to be (i) assorters, who must possess a good knowledge of the qualities required to make up each grade or mark and who know how to cut and hackle jute, (ii) packers, men who know through experience, the correct methods of serving the baling press, and (iii) export coolies or *sangras*, working in teams of two or three whose duties include importing loose jute, removing *pucca* bales from the presses to the export godown for storage and, subsequently, loading trollies at the time of shipping. Unskilled workers are the coolies employed in the sheds for general labour or carrying bundles and *bojhas* to the presses, etc. In the majority of presses, three or four labour contractors operate—one each for importing, assorting and packing—and may be able to supply workers for two or more of the items noted.

312. (b) *Importing*—The general method of arranging payment to the contractor is not on the actual quantity imported in *kulcha* bales, drums or in loose condition, but according to the quantity packed, during a given time—say one month. For example, if 50,000 mds. (equivalent of 10,000 *pucca* bales) are imported and only 7,500 bales are packed, the contractor is paid on the latter figure. A fair average rate for this work is two and a half annas per *pucca* bale. This may vary slightly from press to press as it is basically fixed according to the distance from the import jetty or siding to the sheds.

313. (c) *Assorting*—Here again the contractor receives payment according to the quantity baled. It is not possible to give a series of rates which can be considered as standard, as they vary considerably and depend greatly upon the class of jute normally handled by the press. A firm dealing in superior qualities will naturally pay higher rates than others who mainly pack 'outport' marks. The series of rates quoted below may, however, be treated as fairly representative for European and Indian firms operating in Calcutta.

(i) *White Jute*—Charges vary from Re. 1 to Rs. 1-2-0 per bale for medium to better grades, i.e. Reds, Firsts, some classes of Lightnings and Daccas. These require more careful grading, cutting and hackling. Balers packing a higher standard of the lower export grades, e.g. Hearts, may pay up to twelve or thirteen annas per bale, whereas for ordinary standards the rate may range from four to eight annas only. These grades do not call for the same careful handling as in the case of higher marks and are therefore selected much more quickly.

(ii) *Tossa*—Rates vary round about fifteen annas per bale for the better qualities, but for lower grades which require less attention they vary from six to twelve annas. Generally speaking, this class of fibre is easier to handle than 'white', as it is often more lightly rooted and contains more body weight.

(iii) *Daisee*—Balers, packing a high standard of this crop, pay from six to eight annas per bale for assorting, and those baling lower qualities pay from four to five annas per bale. Rates vary a good deal for this class of fibre, and are on a lower level all round. Preparing Daisee fibre for export does not call for so much handling as do other fibres, as it is not cut.

(iv) *Cuttings*—Small jute butts and snippets from three to eight inches long are not selected, but are simply taken from the assorting sheds to the presses for baling, therefore no charge is incurred for assorting. Higher grade butts from nine to twenty-four inches or more in lengths are, however, graded and cleaned, the charge being approximately two and a half annas per bale.

314. (d) *Kutchha bale ropes*—There is a ready market, principally in Calcutta, for jute of which *kutchha* bale ropes are made. After being removed from the bales, they are bundled and stored. Unskilled workers are employed in untwisting, cutting and cleaning them and making them up into bundle for baling. The work is slow and tedious, and a woman or boy working eight hours can prepare only about one-third of a bale. The rate paid is approximately one rupee four annas per bale.

315. (e) *Ropes and Ropemaking*—Under the provisions of the London Jute Association's contract, ropes used for baling must be made of twisted raw jute. The weight of fibre used is about five or six pounds per rope and the wages paid for making are approximately nine annas for ten ropes. The baler supplies the jute, and at a nominal price of six rupees per maund, the cost will be seven annas per rope. Adding this to the making charges, the total costs amount to eight annas.

316. (f) *Pressing charges*—The press owners are responsible for the general maintenance of buildings, running of the plant, the labour required to work the presses and for storing and exporting packed bales. He also provides adequate mechanical, watch & ward and conservancy staffs. He is, therefore, liable for all charges connected with these functions together with the payment of taxes, insurance and establishment. These charges vary from one press to another, depending upon its system of maintenance, location for transport, insurance, classification and arrangements in regard to general management and establishment. The following charges were reported by a press of good standing, which packed nearly one and a half lakhs of bales during the season 1938-39.

	Rs.	As.	P.
1. Labour—press workers and coolies for storage and exporting ...	0	4	6
2. Establishment—payment for staff, office expenses, taxes, etc., ...	0	3	6
3. Insurance charges	0	2	6
4. Coal and upkeep of mechanical plant	0	2	0
5. Repairs to machinery	0	0	6
6. Stores—replacements	0	0	6
7. Contingencies	0	0	6
Total charges per bale Rs. 0 14 0			

These charges are incurred in respect of actual working and do not take into consideration important items, such as depreciation of block or interest on capital invested.

The following figures will show how the pressing rates have fluctuated during the last 50 years:—

YEARS	CALCUTTA SIDE	HOWRAH SIDE
1890-1906	Rs. 1 5 6 per bale (with an additional two annas for exporting)	Rs. 1 3 6 per bale
1906-1913	Calcutta Hydraulic Press Association—not functioning.	
1914-1916	A—Rs. 1 14 0 per bale	Rs. 1 12 0 per bale
	B—,, 2 0 0 ,,	,, 1 14 0 ,,
1916-1917	A—,, 2 0 0 ,,	,, 1 14 0 ,,
	B—,, 2 2 0 ,,	,, 2 0 0 ,,
1917-1918	Uniform rate ,, 2 10 0* ,,	
1918-1919	A—,, 2 0 0 ,,	,, 1 14 0 ,,
	B—,, 2 2 0 ,,	,, 2 0 0 ,,
1919-1920	A—,, 2 4 0 ,,	,, 2 2 0 ,,
	B—,, 2 6 0 ,,	,, 2 4 0 ,,
1920-1921	A—,, 3 0 0 ,,	,, 2 14 0 ,,
	B—,, 3 2 0 ,,	,, 3 0 0 ,,
1922-1926	No rates fixed.	
1927-1930	A—,, 2 4 0 ,,	,, 2 4 0 ,,
	B—,, 2 6 0 ,,	,, 2 6 0 ,,
1930-1931	A scale of charges was decided as follows—	
	Under 1,00,000 bales	Rs. 2 0 0
	1,00,000 to 1,50,000 ,,	,, 1 15 0
	1,50,000 ,, 2,00,000 ,,	,, 1 14 0
	Over 2,00,000 ,,	,, 1 13 0
1931-1932	No rates fixed.	
1933-1934	Rates indicated were as follows:—	
	Under 50,000 bales	Rs. 1 6 0
	50,000 to 1,00,000 ,,	,, 1 5 0
	1,00,000 ,, 1,50,000 ,,	,, 1 4 0
	1,50,000 ,, 2,00,000 ,,	,, 1 3 0
	Over 2,00,000 ,,	,, 1 2 0

A—Jute.

B—Cuttings, Daisee & Rejections.

*—With rebate of two annas per bale to shipper against claims for excess measurement.

After 1933-34, no rates were fixed. This factor, together with the poor offtake from overseas markets marked a period of competition by presses to get trade, which resulted in prices dropping as low as thirteen annas per bale. That was the position up to 1940 when the 'Production Agreement' already mentioned was brought into force.

317. (g) *Exporting*—This term covers the removal of bales from the press-house for storage and shipping when required, and the charge varies as between presses according to the distance bales have to be carried. The average is approximately one and a half annas per bale.

318. (h) *Hessian bale ticket*—This is affixed to each *pucca* bale and is customarily made from heavy hessian and is stamped with the baler's distinguishing marks and the grade of jute packed. The cost of cloth and printing works out at about half an anna per bale.

319. (i) *Boat charges*—These are incurred for transporting loose jute from Calcutta Bazars to the press-houses and *pucca* bales to the docks for shipment. The average charge on this account was assessed at four annas.

320. (j) *Wastage*—Though not an actual charge, the loss through wastage in handling or in evaporation of moisture, is an item which must be accounted for. The generally accepted figure for wastage is $1\frac{1}{4}$ per cent. of the gross weight and at the rate of Rs. 6 per maund of fibre, this comes approximately to eight and a half annas per bale.

321. (k) *Saving through difference in weight*—The items described above represent the expenses incurred for all processes connected with the preparation of jute for export. However, there must also be taken into account a saving effected by the system generally observed by balers, viz. calculating their price for a *pucca* bale of 400 lb., on the basis of five maunds per bale. For the sake of facility in working, the normal course followed is to assume that five maunds of jute are required for each *pucca* bale, but from the ultimate cost, a deduction is made of approximately 2.85 per cent. being the difference between five maunds (that is, 411 $\frac{3}{4}$ lb.) and the weight of a packed bale (that is 400 lb. net). For example, a baler purchasing loose jute at Rs. 6 per maund of 82 $\frac{3}{4}$ lb. pay Rs. 30 for 411 $\frac{3}{4}$ lb. and after selecting, makes it up into a *pucca* bale of 400 lb. thereby retaining 11 $\frac{3}{4}$ lb. of fibre an account of which is given below:—

Loose jute—5 mds. at Rs. 6 per maund	...	Rs.	30	0	0
Add assorting and baling charges (as enumerated)	...	..	4	3	0
Add wastage at 1.75%	...	..	0	8	6
			<hr/>		
Gross price of finished bale	...	Rs.	34	11	6
			<hr/>		
Deduct difference in weight as above 2.85%	...	Re.	0	14	0
			<hr/>		
Net price of finished bale	...	Rs.	33	13	6

This does not, however, take into account allowance against cuttings.

322. (l) *Items of expenditure connected with shipping*—So far the expenses involved in the preparation of a bale for export have been examined, and only a part of the business contracted by Calcutta shippers in pre-war years was on the basis of delivery free alongside ship—in trade parlance, f.a.s.—which meant that the baler's responsibility ended with the goods being placed alongside the vessel which was to carry it to its destination. The charges for dock and river dues, export duty, freight and insurance were, therefore, the liability of the buyer. But, other small lots were sold on the basis

of delivery free on board—known as f.o.b.—which includes dock dues and export duty. Most of the trading before the war was, however, on the basis of prices which included freight and insurance—the trade term describing this method being c.i.f., that is cost, insurance, and freight. Since the war commenced, there has been less trading done by this method owing to the abnormal conditions of the freight market, and practically all contracts are on the basis of f.a.s. or f.o.b. The charges on account of export duty and dock, river and municipal dues have remained the same for many years, and are as follows.

- (i) *Jute export duty*—A Government of India tax, levied on the export of raw jute at the rate of Rs. 4-8-0 per bale of long jute and Rs. 1-4-0 per bale of cuttings.
- (ii) *Calcutta Improvement Trust Cess*, levied at the rate of two annas per bale.
- (iii) *Port Commissioner's charges*, for dock and river facilities—five annas per bale.
- (iv) *Sewer Toll charges*, levied at the rate of 12½ per cent. of river dues or 0.625 of anna per bale.
- (v) *River Toll*, fixed at 1.25 annas per bale.

The total charges in respect of above items amount to approximately Rs. 5-1-0 and Rs. 1-13-0 per bale of long jute and cuttings respectively.

323. (m) *Brokerage*—A further charge to be considered is the commission paid to the broker in Calcutta (if any) and the agent abroad. The former receives brokerage at the rate of ¼ per cent. on the baled jute price in Calcutta and the latter usually gets 1¼ per cent. on the c.i.f. price.

324. (n) *Freight and Insurance*—Before the War, the freight was approximately £2-2-6 per ton of 50 cubic feet, and the insurance charges one per cent. of the f.o.b. price plus freight for Marine and War risk, free particular average.

325. (o) *Summary of charges*—These are the charges which a baler takes into account when offering jute for sale in an overseas market. They are summarized below in the form of a consolidated statement which shows the costs of purchasing loose jute of a quality suitable for baling London Association Firsts actuals, their handling at the press, shipment and landing in the United Kingdom. In this illustration, no account has been taken of fibre suitable for superior or inferior marks which a baler would obtain in the course of selection. It may also be noted that the freight charged is calculated at the sterling rate per shipping ton, which is done to facilitate working. From that point onwards, the statement is quoted in sterling per ton, the rate of exchange being taken as rs. 6½d. per rupee.

*Consolidated statement of expenditure on assorting, baling and shipping
one ton (2240 lb.) of London Jute Association Firsts Actual quality
from Calcutta to London.*

		All costs per bale, un- less mentioned other- wise.	
1.	Loose jute at say Rs. 6 per maund estimating 5½ maunds are required for one <i>pucca</i> bale ...	Rs. 33 0 0	per bale
2.	Deduct ¼ md. cuttings at market price (Rs. 15 per bale)	,, 1 8 0	,,
	Price of long jute for a bale ...	Rs. 31 8 0	,,
3.	Add Baler's charge—		
	(a) Fixed charges	,, 1 4 0	,,
	(b) Working charges		
	(i) Importing	,, 0 2 6	,,
	(ii) Assorting	,, 1 1 0	,,
	(iii) Pressing	,, 0 13 0	,,
	(iv) Ropes & Ropemaking	,, 0 8 0	,,
	(v) Bale tickets	,, 0 0 6	,,
	(vi) Boat charges	,, 0 4 0	,,
4.	Add stock insurance (average)	,, 0 3 0	,,
	Total ...	Rs. 35 12 0	,,
5.	Deduct allowance against difference in weight between 5 mds. and 400 lbs. = (2.77 per cent. of 31/8)	,, 0 14 0	,,
	Total ...	Rs. 34 14 0	,,
6.	Add wastage at 1½ per cent. of Rs. 31-8-0 ...	,, 0 8 10	,,
	F.A.S PRICE ...	Rs. 35 6 10	,,
7.	Add Calcutta brokerage at ¾ per cent. ... (When baler does not act as his own shipper)	,, 0 4 2	,,
	Total ...	Rs. 35 11 0	,,
8.	Add shipping charges		
	(i) Export duty ... Rs. 4 8 0		
	(ii) Calcutta Improve- ment Trust Cess ... ,, 0 2 0		
	(iii) Port Commissioner's charges ... ,, 0 5 0		
	(iv) Sewer charges ... ,, 0 0 6.25		
	(v) Fixed toll ... ,, 0 1 0.25	5 0 6.5	/f
	Total ...	Rs. 40 11 7	,,
	F.O.B. PRICE ...	,, 228 0 6	per ton
	Sterling equivalent @ 1s. 6 1/16d. per rupee	£ 17 3 3	,,

	B/F	£	17 3 3	
9. Freight at the rate of £2 2s. 6d. per ton of 50 cubic feet	...	£	2 5 11	per ton
	Total	£	19 9 2	..
10. Insurance at 1 per cent. for Free particular average marine & war risk	...	£	0 3 11	..
	Total	£	19 13 1	..
11. London agent's commission @ 1¼ per cent	...	£	0 6 11	..
London landed cost	...	£	20 0 0	..
12. Rupee equivalent @ 1s. 6 1/16d. per rupee	...	Rs.	265 11 11	..
or London landed cost per bale	...	Rs.	47 7 3	per bale
Price of <i>pucca</i> bale ready for export from Calcutta i.e. F. A. S. price	...	..	35 6 10	..
Total shipment cost is therefore	...	Rs.	12 0 5	..
Say	...	Rs.	12 0 0	per bale

E. CLAIMS & ARBITRATIONS

I. LOOSE JUTE PURCHASES (CALCUTTA).

326. (a) *Indian Jute Mills Association Contract*—Disputes arising out of the delivery of jute which the buyer claims to be either of inferior quality, or containing excess moisture, and which have been bought under the Indian Jute Mills Association's contract are in many cases settled amicably after a joint inspection of the goods by the seller and the buyer. The procedure followed is simple. As soon as possible, after arrival, the baler inspects the fibre delivered and if he considers it below the contract standard either in quality or condition, he addresses the seller through his broker, stating the reason for the claim and in some cases the amount of compensation he considers should be paid. Later, the broker and the seller both attend the press-house by arrangement with the baler, and after a joint inspection discuss the merits of the claim and if it is considered to be justified they try to reach a settlement on the spot. When neither party can agree, they have the option of going to arbitration. The claim is then referred to the Tribunal of Arbitration of the Bengal Chamber of Commerce, the decisions and awards of which are final and binding on the parties concerned. The following procedure is followed in arbitration cases. On a case being submitted, the Secretary of the Bengal Chamber of Commerce, in his capacity as Registrar of the Tribunal of Arbitration, nominates members, who have special knowledge of the class of fibre

under dispute, to form a court. These arbitrators may carry out their examination of the goods either at the press-house or, if not suitable, at the Arbitration rooms of the Chamber of Commerce. Both parties are notified of the procedure to be followed, and the number of bales to be inspected. In cases of arbitration held at the Chamber each disputant is requested to select and seal half the number of bales required and to forward them on a given date. The arbitrators carry out their examination in the prescribed manner and are required to make known their award within thirty days. There is no right of appeal in this system of arbitration. Many claims are made on account of short weight, and when a seller disputes the buyer's statement, he may request a reweighment by the Licensed Measurers Department of the Bengal Chamber of Commerce. If, after weighment, the Weigher's certificate shows that the shortage is less than 20 per cent. of the weight stated by the buyer, then charges are on his (buyer's) account, but if it is over 20 per cent., then the seller pays the Licensed Measurer's fees.

327. (b) *Balers Private Contracts*—Only a few balers use their own forms of contract when buying loose jute, and that also when dealing with selected merchants. Claims under these contracts are practically in all cases settled amicably at joint conferences between both parties. When no settlement is reached, the matter is referred to private arbitration. Each disputant elects an arbitrator to act on his behalf, and it is rarely that a private arbitration is settled without the necessity for both parties jointly to appoint an umpire who gives a final decision which is binding on both. The fees paid in these cases are Rs. 80 for each arbitrator and umpire.

328. (c) *Bazar purchases*—As already described loose jute purchased in Calcutta bazars is almost without exception on the basis of '*tale quale*', and is not customarily claimed on. Sometimes, however, balers obtain allowances from sellers if the bulk of the parcel turns out to be lower than the examination indicated, but there is no recognized formula for presenting such claims and to a large extent their settlement depends on the closeness of the business relationship between buyer and seller.

2. PUCCA BALES.

329. (a) *Calcutta*—All trading between balers and mills is, as explained, done under the terms of the Indian Jute Mills Association Contract, and the procedure followed in the event of claims or arbitration is the same as for loose jute, described above. Contracts for export goods between balers and shippers are, however, made on the Calcutta Baled Jute Association form, and disputes are therefore subject to the procedure laid down by that body. If, on inspection, the buyer

considers he has justification for a claim, he advises the seller and, at a joint inspection, a settlement is attempted. Deductions in price rarely occur, as the baler usually prefers to give a fresh tender or include the 'Invoicing Back' clause in the letter of Home Guarantee. Under this contract, buyers are responsible for arranging weighment by Licensed Measurers, and the certified weight given by this department is considered final and binding. 'Daisee' and 'Hearts', however, are customarily shipped on the basis of weight guaranteed by baler at Port of destination. In the event of claims being sent to arbitration, these are subject to the Rules and Bye-Laws of the Calcutta Baled Jute Association. In cases concerning quality or condition calling for local inspection, the arbitrators must make their award within seven days, but for cases relating to customs of trade, etc., thirty days are allowed. The right of appeal is permitted, and it is stipulated that details of any appeals must be lodged not more than four days after receipt of awards for quality or condition and fourteen days in the case of trade custom. The Association appoints an expert to examine and report the details of the appeal, and a special Committee, after full consideration gives its decision which is final and binding on both parties. The fee paid to the arbitrators, umpires or experts is Rs. 80 in respect of each lot under dispute. Application for the hearing of an appeal must be accompanied by a deposit of three hundred rupees to cover fees and expenses. As in all cases the loser pays the total costs connected with the arbitration.

330. (b) *Overseas*—When claims arise against quality or condition of jute shipped to Australia or the Far East, every effort is made to settle them without the necessity of arbitration. Should this not be possible, a specified number of intact bales are selected by a registered surveyor at the port of destination, sealed and returned by the first available steamer to Calcutta, where they are arbitrated upon in accordance with the rules of the Calcutta Baled Jute Association. Awards are made in the prescribed manner, and if either party disagrees with them he can exercise his right of appeal in the manner already described. Such arbitrations, however, are rare, the general policy being to avoid the trouble caused by shipping and the holding up of consignments.

331. (i) *London*—Claims on shipments to countries in Europe and to America, either regarding qualities included in the London Jute Association's Groups and sold under its contract, or for many private marks which cannot be settled amicably, are decided by arbitration in London. The decision to arbitrate must be communicated to the appropriate party within 21 days of the date of final discharge of the exporting vessel at port of destination, except in the case of jute

sold under the Calcutta Jute Association's Contract (Home Guarantee) wherein 23 days are allowed. All correspondence and documents concerning the dispute are sent to the Secretary of the London Association for necessary action, after which two arbitrators and one umpire (to act if the arbitrators disagree) are appointed. Buyer's and seller's Superintendents at ports of destination select from one-tenth of the parcel under dispute and which remain in store, the number of bales required and these are sealed and despatched to London for examination. In cases where the arbitrators' awards are not acceptable to either party, a notice of appeal must be lodged, not later than ten days after the award has been sealed, and at the same time the appellant must pay an investigating fee (not deemed to form any part of the expenses of the appeal nor award); and when the appeal is on quality or condition, a further sum is payable as Expert's fees, equal to the fees of two arbitrators. The above fee in the cases of quality and/or condition is £5 for a parcel not exceeding 250 bales and £10 for larger qualities.

TABLE XXII
London Jute Association Arbitration Fees.

Item	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
1000 B/s One number	12	240	12 12 0	16	12 12 0
1000 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.

332. (ii) *Dundee*—The Dundee Jute Importers Association has its own Tribunal of Arbitration and all jute sent to that city under its contract on which claims have been lodged and which cannot be

settled privately are referred to arbitration under the association's rules. Such arbitrations are identical in every respect with those of London Jute Association but with a slight modification in the costs of an appeal which are £5. 5s. od. for any member of the Association and £10. 10s. od. for a non-member. The business integrity of the members of both the London and Dundee Boards of Arbitration is acknowledged by all concerned in the jute export trade throughout the world, and the system now in force, which has been built up by experience gained over many years, is considered by the majority of jute balers in Calcutta to be a sound and impartial method of settling disputes.

F. SHIPMENTS FROM CHITTAGONG

333. Chittagong, situated at the head of the Bay of Bengal, is a port of some importance in the export of raw jute handling the bulk of *pucca* bales packed in Narayangunge and Chandpur. Only one shipping company, the Clan Line, operates from this port and the United Kingdom is the only country to which jute is carried now, though prior to 1930, there were small shipments to the United States also. It is learnt that these were discontinued owing to difficulties raised by American consumers regarding the arrangement of freight. The system in force in regard to these shipments is as follows. Shippers reserve the space required prior to the ships proceeding to Chittagong—usually from Calcutta. These bales are brought from Chandpur and Narayangunge by railway, and are inspected at the docks for possible damage sustained during the journey. Any bale that has burst and become damp, or has been stained by oil from the wagons, is rejected and returned to the shipper. Weighment is carried out by employees of the Licensed Measurers Department, and the freight is charged according to the measurements returned by them. No inspection for quality is made at Chittagong harbour, all jute sent from there being sold on the 'Home Guarantee' basis, which bears the 'invoicing back' clause. Handling at railway siding and jetties, and loading on steamer is done by the staff of the Assam Bengal Railway, which transports all jute to the port, and in all 3 as. per bale are charged. Stowing in cargo holds is carried out by the steamer agents and the charge of 5 as. per bale is incorporated in the freight. Export duty at the usual rates of Rs. 4-8-0 for jute and Rs. 1-4-0 for cuttings is collected by the Port authorities on behalf of the Government. The Calcutta Improvement Trust levy of 2 as. per bale is also charged at Chittagong. The following figures give an idea of the volume of traffic in baled jute that has passed through this port since 1925.

TABLE XXIII

Year	Exports (in bales of 400 lb.)
1925-26	168,000
1926-27	160,000
1927-28	217,000
1928-29	206,000
1929-30	201,000
1930-31	99,000
1931-32	187,000
1932-33	187,000
1933-34	107,000
1934-35	239,000
1935-36	219,000
1936-37	144,000
1937-38	178,000
1938-39	191,000
1939-40	168,000

G. ANALYSIS OF CONSUMPTION IN FOREIGN COUNTRIES

I. QUANTITATIVE ANALYSIS.

334. (a) *General*—As the manufacturing industry was established overseas long before it was started in India, exports of raw jute for many years were naturally on a greater scale than the quantity consumed by mills in India. In fact, it was not until 1909-10 that mills in this country used more jute than foreign consumers. The following table shows the exports of raw jute for twenty years, 1919-20 to 1938-39, during which more changes have taken place in world conditions than in any other period in the history of the trade.

TABLE XXIV

Year.	Exports.	Year.	Exports.
1919-20	591,814 tons	1929-30	806,884 tons
1920-21	472,414 ..	1930-31	619,705 ..
1921-22	467,685 ..	1931-32	586,618 ..
1922-23	577,955 ..	1932-33	563,063 ..
1923-24	659,963 ..	1933-34	748,168 ..
1924-25	696,000 ..	1934-35	752,474 ..
1925-26	647,154 ..	1935-36	771,324 ..
1926-27	707,782 ..	1936-37	820,591 ..
1927-28	891,907 ..	1937-38	747,258 ..
1928-29	897,863 ..	1938-39	690,439 ..

Source:—Annual Statement of the Sea-borne Trade of British India.

335. The variations in the statistics just quoted are characteristic of the business cycle as represented by the world's industrial production. The first five years show the recovery of the overseas mill industry after the first World War, followed by the boom period of 1927 to 1929 when exports were greater than at any time either before or since—the figures for 1928-9 being 897,863 tons. The world economic crisis of 1930-1933 had its reflection in the offtake. Recovery was quicker in overseas countries than in India, an important factor contributing to this being the severe measures to restrict production adopted by the Indian Jute Mills Association during these years. The fact that jute exports in 1934-5 exceeded those of manufactured goods, was a factor which weighed heavily with the Association in their decision to increase production from 1934 onwards. During the last five years, the consumption overseas has followed the trend of business activities throughout the world, reaching a peak in 1936-7 with 820,591 tons, and declining in the next two years by a substantial margin, being 747,258 and 690,439 tons in 1937-8 and 1938-9 respectively. The effect of the European war in 1939 has been disastrous. European countries, which normally consumed over 50 per cent. of the total exports, are now directly involved in the conflict, and are thus eliminated from this market. Other countries are facing trading difficulties through exchange and shipping restrictions. In 1939-40, shipments dropped to 531,000 tons, which were high considering that this period included the first eight months of the war, and this would indicate that the countries able to purchase were accumulating stocks.

336. (b) *Consumption by important manufacturing countries*—Table XXV shows the annual exports of jute, during 1919-20 to 1938-39, in respect of all important overseas markets, together with the quinquennial percentages of the total offtake in each country. The position of various consumers of jute and the general trend of their consumption can be gauged accordingly. One notable point emerging from these statistics is that, although fluctuating to an appreciable degree from year to year, quinquennial variations are, on the whole, relatively slight in the majority of countries included in the table.

(i) *United Kingdom*—This country was first in the field as an importer and has maintained its position, although in recent years a moderate quantity of the jute consigned there has been re-exported to the Continental countries. The jute manufacturing industry at Dundee has passed through difficult times; and, on more than one occasion in the past twenty years, mills were on short time working for long periods. The average offtake for the two decades reviewed is given below.

TABLE XXV
Export of Raw Jute to Foreign Countries.
(In tons)

Year.	United Kingdom	Germany	France	U.S.A.	Italy	Belgium	Spain	Brazil	Holland	Japan	Black Sea Ports	China	Argentine	Others	Total.
1919-20	310,670	3,609	80,731	77,649	28,076	30,752	19,138	15,228	5,848	10,566	714	1,012	1,455	6,366	591,814
1920-21	136,023	72,068	50,044	110,005	22,869	25,903	23,857	8,709	7,974	7,345	45	1,360	1,954	4,258	472,414
1921-22	90,835	144,013	55,837	66,422	25,325	21,265	22,120	13,439	9,904	12,002	398	1,239	2,790	2,096	467,685
1922-23	156,178	141,470	57,287	89,591	34,872	28,287	27,954	15,338	7,280	11,457	1	1,902	3,350	2,988	577,955
1923-24	156,635	162,297	74,457	87,185	49,777	48,676	24,484	18,249	12,173	12,323	45	2,413	3,889	7,360	659,963
I. Average	30.7	18.9	11.6	15.6	5.8	5.6	4.3	2.5	1.5	1.9	Negligible	0.3	0.5	0.8	100.0
1924-25	172,760	189,273	80,829	59,280	49,177	46,323	38,668	13,395	10,836	13,768	3,928	7,718	3,603	6,442	696,000
1925-26	174,404	144,635	88,520	69,247	49,110	32,962	29,794	15,195	12,937	11,403	4,656	3,906	4,646	5,739	647,154
1926-27	172,889	183,051	89,943	87,551	45,261	44,378	33,371	11,350	10,833	9,184	6,050	4,221	5,752	3,948	707,782
1927-28	222,072	249,888	109,493	84,231	49,085	48,701	45,184	19,412	20,946	11,747	12,759	5,461	6,428	6,500	891,907
1928-29	201,833	260,149	109,984	94,814	60,655	54,939	42,881	12,101	17,072	12,033	12,664	5,226	6,290	7,222	897,863
II. Average	24.5	26.8	12.4	10.4	6.6	5.9	4.9	1.8	1.9	1.5	1.1	0.7	0.7	0.8	100.0
1929-30	164,751	216,467	106,473	79,386	54,902	46,298	44,720	18,314	21,630	16,007	15,742	6,038	5,851	10,305	806,884
1930-31	107,909	168,976	89,268	53,060	42,213	47,915	33,020	15,098	19,456	6,140	15,047	7,040	5,352	9,211	619,705
1931-32	154,417	130,853	51,869	49,115	44,125	45,869	35,621	15,660	12,076	9,919	8,844	6,621	6,957	14,672	586,618
1932-33	129,522	121,710	68,914	35,949	37,465	40,678	42,311	13,287	21,974	14,492	5,401	6,687	7,141	17,532	563,063
1933-34	177,193	165,411	83,666	51,701	65,076	55,935	35,625	19,033	32,616	17,345	8,499	7,063	8,511	20,494	748,168
III. Average	22.1	24.2	12.0	8.2	7.3	7.1	5.8	2.4	3.2	1.9	1.7	1.0	1.0	2.1	100.0
1934-35	166,377	137,432	83,058	51,555	87,092	59,797	42,995	17,791	21,407	23,303	8,206	8,236	9,049	36,176	752,474
1935-36	166,058	151,951	75,207	79,494	49,030	55,795	50,337	19,831	19,487	23,538	12,248	9,521	6,967	51,860	771,324
1936-37	188,631	133,950	85,627	88,205	75,551	69,682	17,075	21,163	19,886	35,418	5,814	9,408	9,612	60,569	820,591
1937-38	144,767	143,133	65,096	99,143	72,953	54,650	4,680	25,531	18,575	15,023	4,400	15,311	10,476	73,520	747,258
1938-39	180,723	131,956	75,994	31,104	46,129	50,861	11,157	24,585	12,686	14,810	1,466	19,209	10,499	79,260	690,439
IV. Average	22.4	18.5	10.2	9.3	8.7	7.7	3.4	2.9	2.4	2.9	0.9	1.6	1.2	7.9	100.0
<i>General Average of 20 years</i>															
Actual	168,732	152,615	79,115	72,234	49,437	45,483	31,250	16,635	15,780	14,391	6,346	6,480	6,029	21,326	685,853
Percentage	24.6	22.3	11.5	10.5	7.3	6.6	4.5	2.4	2.3	2.1	0.9	0.9	0.9	3.2	100.0

Note:—The averages at I, II, III and IV are expressed in percentages and have been calculated on the actual quinquennium figures relative to the period.
Source:—Annual Statement of Foreign Sea-borne Trade of British India.

(To face page 180.)

Items	1919-20	1924-25	1929-30	1934-35
	to	to	to	to
	1923-24	1928-29	1933-34	1938-39
Average (in tons)	170,068	188,791	146,756	169,310
Percentage of total Indian exports	30.7	24.5	22.1	22.4

The average for twenty years in 168,732 tons, which represent 24.64 per cent. of the total jute exports from India.

337. (ii) *Germany*—It was stated in the introductory chapter of this report that Germany increased her jute mill industry by a considerable margin after the war of 1914-18, and this is borne out by the steady increase in her imports, particularly in the decade 1919-20 to 1928-29. For the succeeding ten years, imports were not on such a heavy scale, but this included the period of economic depression and, later, the strenuous efforts made by this country to utilize her natural resources to the fullest extent. From 1936, 'zell-jute' and 'staple fibre' made from straw and wood were being used with jute in the manufacture of the heavier types of sacking and this undoubtedly had the effect of reducing offtake considerably. Another feature of imports by Germany was the fact that a fair proportion did not in fact go there, but to Holland and Belgium. Much of the fibre despatched from Calcutta was on consignment or, in other words, unsold at the time of despatch. These lots were customarily shipped under what was termed, a 'H.A.R.B.' Bill of Lading. This meant that it could be delivered at either Hamburg, Antwerp, Rotterdam or Bremen, but for the purpose of registration in Customs returns in Calcutta it was in most cases recorded as being consigned to one of the two German ports named. Quinquennial imports by Germany were as follows:—

Items	1919-20	1924-25	1929-30	1934-35
	to	to	to	to
	1923-24	1928-29	1933-34	1938-39
Average (in tons)	104,691	205,399	160,683	139,684
Percentage of total Indian exports	18.9	26.8	24.2	18.5

The average for twenty years is 151,615 tons, which represent 22.3 per cent. of the total Indian exports of jute.

338. (iii) *France*—This country has been a consistent user of raw jute for many years and her imports have been maintained at a fairly steady level as will be seen below.

Items	1919-20	1924-25	1929-30	1934-35
	to	to	to	to
	1923-24	1928-29	1933-34	1938-39
Average (in tons)	63,671	95,753	80,038	76,996
Percentage of total Indian exports	11.6	12.4	12.0	10.2

The average for twenty years is 79,115 tons, which represent 11.5 per cent. of the total exports of jute from India.

339. (iv) *United States of America*—This was one of the first countries to take up the manufacture of jute and for many years held second place of importance in the export lists. A study of Table XXV shows that during the last twenty years, her imports have fluctuated over a wider range than any other country. One particularly noticeable variation is shown in the last two years under review, her offtake dropped from 99,143 tons in 1937-38 to 31,104 tons in 1938-39, which is the lowest figure on record.

Quinquennial averages were as follows:—

Items	1919-20	1924-25	1929-30	1934-35
	to	to	to	to
	1923-24	1928-29	1933-34	1938-39
Average (in tons)	86,170	78,985	53,842	69,900
Percentage of total Indian exports	15.6	10.4	8.2	9.3

The average for 20 years is 72,234 tons, which represent 10.5 per cent. of total jute exports of India.

340. (v) *Italy*—Building up her manufacturing industry after the first world war, Italy gradually became one of the more important consumers of raw fibre. Her imports increased on the whole, though in 1938-39 there was a sharp decline in consumption—being 46,129 tons against 72,953 in 1937-38. In Italy also, serious efforts have been made to render the country self-sufficient as far as practicable, and it was reported that locally grown hemp was being mixed with jute to a large extent. Quinquennial averages from 1919-20 are as under:—

Items	1919-20	1924-25	1929-30	1934-35
	to	to	to	to
	1923-24	1928-29	1933-34	1938-39
Average (in tons)	32,083	50,658	58,756	66,151
Percentage of total Indian exports	5.8	6.6	7.3	8.7

The average for 20 years is 49,437 tons, which represent 7.3 per cent. of the total jute exported from India.

341. (vi) *Belgium*—The trend of consumption in this country has been steadily upward, each quinquennium having shown a higher average than the preceding one. The loom strength there has increased by about thirty per cent. over the last twenty years. Her quinquennial averages are:—

Items	1919-20	1924-25	1929-30	1934-35
	to	to	to	to
	1923-24	1928-29	1933-34	1938-39
Average (in tons)	30,973	45,261	57,339	58,157
Percentage of total Indian exports	5.6	5.9	7.1	7.7

The average for 20 years is 45,483, which represent 6.6 per cent. of the total jute exports of India.

342. (vii) *Spain*—This country's imports were on the up grade during the first fifteen years of this review. Later, the Civil War, which lasted from 1936 to 1939, greatly disturbed the industry and jute exports fell to a low level during these years. The quinquennial averages are:—

Items	1919-20	1924-25	1929-30	1934-35
	to	to	to	to
	1923-24	1928-29	1933-34	1938-39
Average (in tons)	23,523	45,379	47,339	25,249
Percentage of total Indian exports	4.3	4.9	5.8	3.4

The average for 20 years is 31,250 tons, which represent 4.5 per cent. of the total jute exports of India.

343. (viii) *Brazil*—This country has been a steady user of jute for many years ; the rate of consumption for the second decennial period shows a steady increase, corresponding to the expansion of its manufacturing industry, as already reported. The quinquennial averages are:—

Items	1919-20	1924-25	1929-30	1934-35
	to	to	to	to
	1923-24	1928-29	1933-34	1938-39
Average (in tons)	14,133	14,291	16,266	21,780
Percentage of total Indian exports	2.5	1.8	2.4	2.9

The average for 20 years is 16,635 tons, which represent 2.4 per cent. of the total jute exports of India.

344. (ix) *Holland*—The greatest increase in demand took place during the first quinquennium under review, Holland's imports rising

from 5,848 to 12,173 tons. Thereafter, her offtake increased with fair regularity, bringing the overhead average to 15,780 tons. A small percentage of the jute sent there is re-exported to Germany and Northern Belgium.

The quinquennial averages are:—

Items	1919-20	1924-25	1929-30	1934-35
	to	to	to	to
	1923-24	1928-29	1933-34	1938-39
Average (in tons)	8,638	12,525	21,550	18,458
Percentage of total Indian exports	1.5	1.9	3.2	2.4

The average for 20 years is 15,870 tons, which represent 2.3 per cent. of the total jute exports of India.

345. (x) *Japan*—Exports to Japan have shown a fairly consistent rise since 1919-20. Particularly note may be made of the years 1934 to 1936, when this country opened up several new mills in Formosa and Manchukoa. Imports were heavier then than at any other time. The effect of the war with China, coupled with the results achieved in the attempts to produce jute and *kenaf*, are reflected in the drop in imports in the last two years shown below.

1934-35	...	23,303 tons
1935-36	...	23,538 "
1936-37	...	35,418 "
1937-38	...	15,023 "
1938-39	...	14,810 "

The quinquennial figures are:—

Items	1919-20	1924-25	1929-30	1934-35
	to	to	to	to
	1923-24	1928-29	1933-34	1938-39
Average (in tons)	10,739	11,627	12,781	22,458
Percentage of total Indian exports	1.9	1.5	1.9	2.9

The average for 20 years is 14,391 tons, which represent 2.1 per cent. of the total jute exports of India.

346. (xi) *Egypt*—Jute consigned to this country is generally for transhipment to Black Sea ports for consumption in the U.S.S.R. or Balkan countries. Shipments have varied over wide margins, the quinquennial averages being:—

Items	1919-20 to 1923-24	1924-25 to 1928-29	1929-30 to 1933-34	1934-35 to 1938-39
Average (in tons)	Negligible	8,011	10,707	6,427
Percentage of total Indian exports	—	1.1	1.7	0.9

The average for 20 years is 6,346 tons, which represent 0.9 per cent. of the total jute exports of India.

347. (xii) *China*—Exports to this country have increased regularly over the last twenty years, having risen from about 1,600 tons in the first quinquennium to over 12,000 tons in the last. This is accounted for by the opening of new mills. One interesting feature is the fact that during 1937-38 and 1938-39, despatches to Chinese ports were higher than ever before, which was most probably on account of the country's increased efforts to produce material required for her war with Japan. Quinquennial figures of her imports are:—

Items	1919-20 to 1923-24	1924-25 to 1928-29	1929-30 to 1933-34	1934-35 to 1938-39
Average (in tons)	1,585	5,306	6,689	12,337
Percentage of total Indian exports	0.3	0.7	1.0	1.6

348. (xiii) *Argentina*—This South American country has shown a steady increase in imports since 1919-20, corresponding to the expansion of its mill industry. Her quinquennial averages are:—

Items	1919-20 to 1923-24	1924-25 to 1928-29	1929-30 to 1933-34	1934-35 to 1938-39
Average (in tons)	2,687	5,344	6,762	9,321
Percentage of total Indian exports	0.5	0.7	1.0	1.2

349. (xiv) *Other countries*—Exports to other countries, where jute manufacture is carried on, amount to a considerable total. Notable amongst these are Australia, Poland, Czechoslovakia and the Scandinavian countries. Their individual consumption is, however, small, and for the purpose of this review they have been grouped together. The statistics quoted indicate that there has been considerable expansion in their respective mill industries, particularly in the last ten years.

Items	1919-20	1924-25	1929-30	1934-35
	to 1923-24	to 1928-29	to 1933-34	to 1938-39
Average (in tons)	5.213	5.970	14.443	60.277
Percentage of total Indian exports	0.8	0.8	2.1	7.9

The average for 20 years is 21,326 tons, which represent 3.2 per cent. of the total jute exports of India.

2. QUALITATIVE ANALYSIS.

350. (a) *General*—The quality of jute imported by the manufacturers of various countries is naturally governed by the type and class of goods manufactured by them. The mechanical efficiency of the plant used, as also that of the individual worker and the cost of labour, are important considerations in the determination of the qualities purchased by all mills. In this connexion, both the United Kingdom and Continental spinners are ahead of their Indian competitors. For example, many Dundee products, which sell on par with Indian made goods, are woven from yarn containing 40 to 50 per cent. *daissee* jute, a fibre which the majority of mills in Calcutta refused to buy as they consider it unsuitable for good spinning. On the Continent, the bulk of fabrics are manufactured with North Bengal and Bihar jute which is used by the mills in India in limited quantities only because of its general softness in texture and weakness in spinning. It is expected, however, that the experiments in technological assessment of spinning qualities and in improving spinning technique now being conducted at the Technological Research Laboratories of the Indian Central Jute Committee, Calcutta, when completed, may be turned to good advantage by mills in this country. It may be added that in an endeavour to assess the quality consumption of the principal jute manufacturing countries, a number of reliable export balers were approached. As a result, it has been possible to give a description in general terms of the qualities normally taken by the most important consuming markets.

(b) *Consumption by important manufacturing countries.*

351. (i) *United Kingdom*—The manufacture of jute goods in this country is concentrated in Dundee and its surrounding districts. Good *daissee* fibre packed to the quality specifications of Dundee spinners forms about 40 per cent. of the total imports, the balance being made up of superior grades of European and Indian private baling, such as East Bengal 'Jat' and 'Good District' White & Tossa and a small proportion of Indian North Bengal Firsts, Lightnings and Cuttings.

Manufacturers here produce a wide range of fabrics, yarns, twine and specialized lines for export such as hessian and sacking (of all weights; widths, and count), tarpaulins, carpet backing, linoleum cloth, rugs and carpets, upholstery foundations, decorative fabrics, buckram, packsheets, brattice cloth, union fabrics, roofing fabrics, sewing twines, cord, string, plain and polished twines, etc., etc.

352. (ii) *United States of America*—This country takes a higher overhead selection than any other. It is also the largest importer of cuttings, the proportions being approximately 65 per cent. of the former and 35 per cent. of the latter of both high and low grade. The bulk of jute imports is selected from European balers' private marks and consists largely of East Bengal 'Jat' Tossa and some White from good class District grades and only a little Superior North Bengal quality. Jute butts and snippets from 3" to 8" long form about 80 per cent. of this class of imports, the balance being of superior quality. American mills are concerned mainly with the manufacture of fine yarns, twine and all types of cordage, such as rug, carpet and linoleum yarns, fuse yarn, cable braiding, sewing and domestic twines, and for these it is absolutely essential to have fibre which will spin down to four or even three lbs. per spynkle. There is practically no production of cloth and bags of the types commonly used for carrying produce. Cuttings are consumed in the manufacture of cotton bagging, a coarse and loosely woven heavy sacking, used to convey raw cotton from the fields to the ginning presses and factories. In connexion with American imports, mention must be made of the Ludlow Jute Company of Ludlow, Mass., which is the largest manufacturer of jute products in America. This concern whose individual consumption is approximately one-third of the total imports, has a large *pucca* baling establishment in Calcutta and packs and ships jute under its own specified marks.

353. (iii) *Germany*—Most of the jute shipped to this country was of the more common standards baled under the London Jute Association's groups of marks. The qualities taken were Firsts, Lightnings, Hearts—generally of Indian balers standard packing some low grade Tossa and small quantities of *daissee* 2/3 & 4's. Only very small business was done in private marks by a few mills having special lines of manufacture. Information was not forthcoming in regard to the types of fabrics produced, but it was reported that the overhead quality of goods made in Germany was superior to that produced by mills in India. They were used for the carriage of agricultural and industrial products. North and South American markets were catered for when conditions were favourable, i.e. during periods when fabric prices were high, permitting German Government subsidized goods to

be quoted at rates competitive with Indian products. A large trade in reconditioned bags was also reported.

354. (iv) *Italy*—The overhead quality of fibre taken by mills in Italy was normally of fairly good standard, consisting of about 70 per cent. Superior, medium to fine, East Bengal White and Tossa, and the balance of the more commonly packed Continental grades of Firsts and Lightnings and *daisee*. Hearts were too low in general quality for Italian mills, but they purchased small lots of good class cuttings. Moderate quantities of superfine fibre were bought for use in the furnishing trade, the yarn produced from it being blended with that of cotton, flax and even silk. Carpet hessian and some linoleum cloth were the only items produced for export—America taking these fabrics. The bulk of manufactures was for internal consumption.

355. (v) *France*—It was estimated by reliable shippers that up to 80 per cent. of the total exports to France are made up of North Bengal fibre packed under the London Jute Association's groups of marks in the following approximate proportions.

Reds	5 per cent.
Firsts	40 " "
Lightnings	30 " "
Hearts	15 " "
Tossa	10 " "

The balance is made up of Good Jat and superior District White and Tossa, and a small proportion of superior grade cuttings. Included in this is a small percentage of superfine fibre selected for its lustre, fine texture and free from blemish of any kind. It is used in the manufacture of soft furnishing fabrics, such as curtains, upholstery covering, etc. This trade, however, accounts for a fraction only of the total consumption, the principal uses of jute being devoted to the production of containers for all types of agricultural products, cement bags, onion pockets, etc.

356. (vi) *Belgium*—The bulk of jute taken by this country is principally North Bengal quality, both White and Tossa. There is also a fair demand for good class East Bengal packing. Belgium exports a moderate percentage of its products which, in general, are bags and cloth suitable for making up into containers for agricultural produce, such as cereals of all descriptions, coal bags, also heavy sacking for industrial purposes.

357. (vii) *Brazil*—A fair quantity of superior North Bengal marks i.e. Firsts, Lightnings and Hearts as well as a moderate amount of East Bengal District White qualities are sent to Brazil. The demand

is principally for White jute of good colour which is used for making coffee bags, meat wrappers and twines. Only a little *daisee* is taken and very small quantities of Tossa.

358. (viii) *Japan*—Fibre shipped to Japan is mainly of the lower marks of the usual North Bengal standards, also Tossa from the East Bengal districts and the more ordinary grades of cuttings. Business in superior quality marks is negligible. The bags manufactured are used to carry rice, paddy and soya beans. Production of special lines requiring the use of fine quality fibre, are not undertaken.

359. (ix) *Argentine*—North Bengal fibre, packed under the London Jute Association's groups, forms a fairly large proportion of the imports. Manufacturers also go in for a fair percentage of East Bengal Jat and District medium quality baling, but do not buy heavily in Tossa. Superior cuttings are taken in fair quantity, this class of business being a prominent feature of the trade with Argentine. Production includes, mainly, the manufacture of meat wrappers, bags for cereals and jute rope-soled canvas shoes (*alpargatas*) which are worn extensively by the poorer classes throughout the country.

360. (x) *Australia*—Australia takes a moderate quantity of jute every year which is manufactured into yarn and twist for general business and domestic purposes. For these products, spinners import European packed East Bengal District Tossa, some superior Firsts and Lightning grades from North Bengal and small lots of good quality cuttings. From the information collected, it has been possible to relate quantitative and qualitative demand for jute consumed overseas, as shown in the following table in which the average quantity exported to each country for the period 1930 to 1939 is included. As far as practicable, consideration has been given to variation in quality from year to year, and the extent of change in quality demand from consuming countries. The estimates are based on the balers' knowledge of each country's requirements and may be considered to be a fairly accurate assessment.

(c) *Changes in Quality Demand.*

361. Balers report that within the last ten to fifteen years, a small proportion of the high grade business done by them with Dundee, the United States and the Continent has disappeared, and manufacturers have shown an increasing tendency to use greater quantities of the more common qualities, such as are packed under the London Jute Association's various groups. They attribute this change largely to improvements in spinning machinery together with more efficient emulsifiers, bleaching agents and starches which enable manufacturers to use lower grade fibre than hitherto, still maintaining a high level

TABLE XXVI
Qualities taken by important overseas markets

Importing Countries	Average Exports 1929-30 to 1938-39 (Tons)	North Bengal & Bihar		Daisee %	East Bengal 'Jat'		East Bengal 'District'	
		White %	Tossa %		White %	Tossa %	White %	Tossa %
United Kingdom	158,035	5	—	40	15	5	15	20
Germany	150,184	60	5	10	10	—	10	5
France	78,517	70	10	—	5	5	5	5
U. S. A.	61,871	5	—	—	20	55	—	20
Italy	57,453	20	—	10	30	—	30	10
Belgium	52,748	50	10	5	10	5	10	10
Spain	31,754	50	10	20	—	—	—	20
Brazil	19,029	50	—	10	5	—	30	5
Netherlands	19,979	40	10	10	10	—	20	10
Japan	17,599	75	—	—	—	—	—	25
China	9,513	90	—	—	5	—	—	5
Balkans	8,567	60	—	15	—	—	—	25
Argentina	8,041	50	—	—	20	—	20	10
U. S. S. R.	7,143	60	20	10	—	—	—	10
Poland	3,750	20	10	10	30	—	20	10
Sweden	4,107	30	10	5	20	—	30	5
Australia	1,250	10	—	—	10	—	10	70

Source:—Enquiries at jute exporting firms in Calcutta.

of quality production. On the Continent, similar conditions have obtained and though demand for fine quality fibre was never great, other factors which have contributed to spinners going in for the lower and cheaper grades have been the financial control exercised by certain countries and the policy, so widely adopted, of aiding their indigenous industries by enforcing mills to use quantities of locally grown fibres.

362. A notable feature in recent years has been the steady expansion in demand for Tossa. This fibre which is of greater strength and has superior spinning qualities than White, has always had a good sale overseas, and indications are that the demand is increasing. Mills in India, though fully recognizing the better spinning properties of this jute, have hitherto taken only small lots, as its reddish colour is too pronounced to permit it being included in any quantity in the more common types of hessian and sacking fabrics they produce. In recent years, however, they have gradually increased their purchases of Tossa for the manufacture of new lines, such as linoleum hessian or certain types of canvas and scrim, either made entirely from this fibre or having a Tossa weft. The trend of demand would, therefore, appear to be upward for this class of jute and there is every justification for recommending that its cultivation should be increased in the areas of East and North Bengal, most suitable for high grade production.

363. Dundee has always been the principal buyer of *daisee* jute, but here again changes are gradually taking place. Demand from the Continent has been increasing steadily and for some years now it has become the practice for balers to ship Tossa produced in certain areas of North and South-East Bengal and Bihar under a *daisee* mark, as much of it bears similar quality characteristics.

CHAPTER VII

WHOLESALE PRICES

A. GENERAL

364. The study of the consumption of baled jute and of the production and distribution of manufactured goods having been completed, we may now examine the fluctuations in the prices of those commodities as well as the causes responsible for same. The analysis of prices, however, is not easy. As shown in detail, in a later section, the prices of raw jute, hessians, gunnies, etc., are influenced by a large number of factors, operating either singly or jointly. As these factors do not operate with equal force in each season, it is difficult to find a jute year which can be considered "normal" from all relevant points of view. A review of prices confined to one or two years is likely neither to elucidate the exact nature of the factors influencing them nor to bring out their relative importance on the pricing processes. Consequently, it was thought advisable to undertake a review of the prices of raw jute and jute goods over a period of 10 years—1930-31 to 1939-40—which also represents the term of a trade cycle. And to make the study complete and up-to-date, the last six months of 1940 have also been included.

As has been shown in previous chapters, it was not till the opening of the twentieth century that jute assumed truly world importance. During the present century, jute prices appear to have been at their highest in the decade 1920-29, but in the following decade (1930-39) they touched unprecedentedly low levels. With the exception of the first six months of 1930 and the last four months of 1939—when the outbreak of war in Europe caused a steep rise in jute prices—the nineteen-thirties recorded the lowest prices of the century. The decennial average prices of *pucca* bale jute (400 lbs. net) First marks, were Rs. 38-9-0, 53-4-0, 74-0-0 and 34-10-0 for 1900-09, 1910-19, 1920-29 and 1930-39 respectively. The graph opposite, showing the annual prices, makes this point clear.

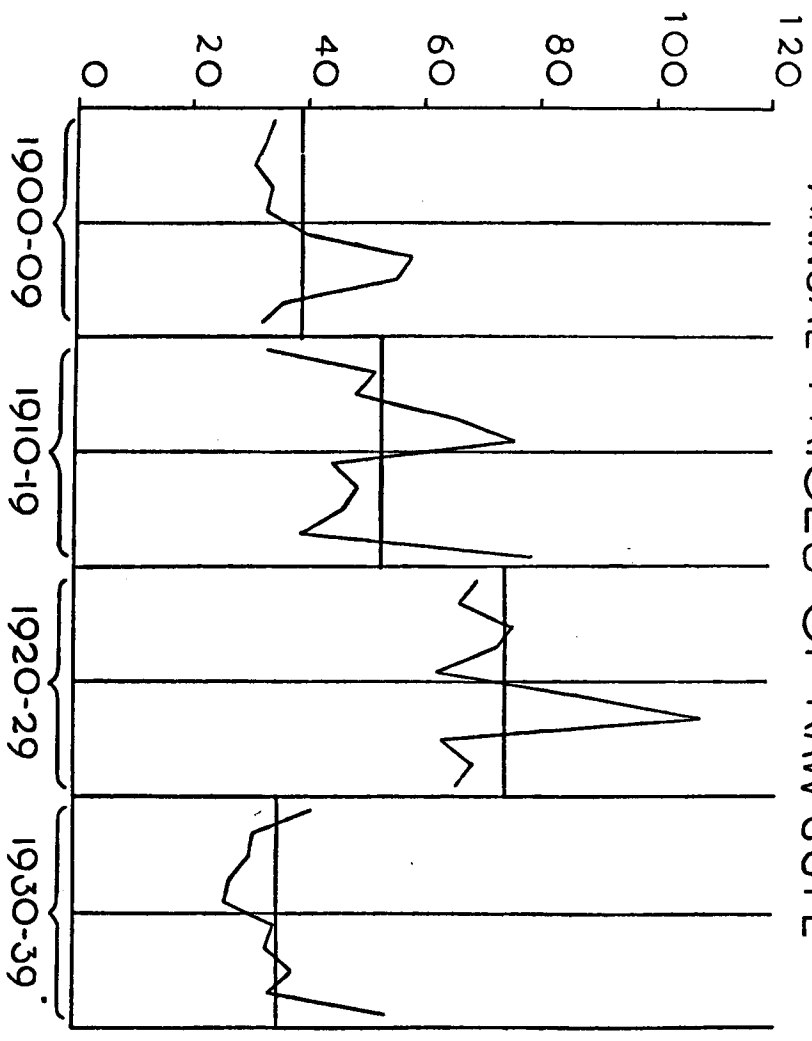
GRAPH I.

B. COURSE OF PRICES (1930-31 TO 1939-40)

365. **1930-31**—The jute season 1930-31, which is the starting point of the present study, was full of difficulties for all connected with the fibre. Exports of raw jute during 1929-30 had been 4,512,000

ANNUAL PRICES OF RAW JUTE

RUPEES PER PUCCA BALE



bales, which exceeded the average of the decade 1929-30 to 1938-39 by 530,000 bales. In 1929-30, the average price of a *pucca* bale was Rs. 54-14-4, that is about half of the record price of 1925-26 which had been Rs. 106-14-8. Still, the estimated area under jute in 1930-31 amounted to 3,492,000 acres with a production of 11,230,000 bales, which became the second highest figures, next only to those of 1926-27 when 3,847,000 acres were sown under jute, yielding 12,157,000 bales.

TABLE XXVII
Area, Production and Export of Jute
(in thousands)

Season (July-June)	Area (acres)	Production* (bales of 400 lbs. net)	Export of raw† jute (bales)
1929-30	3,415	10,360	4,512
1930-31	3,492	11,230	3,416
1931-32	1,862	5,567	3,113
1932-33	2,143	7,097	3,513
1933-34	2,517	8,012	4,248
1934-35	2,670	8,525	4,386
1935-36	2,181	7,240	4,136
1936-37	2,886	9,636	4,884
1937-38	2,889	8,681	3,728
1938-39	3,166	6,844	3,884
1939-40	3,161	9,750	2,968

*Annual Jute Forecasts (Revised Estimates).

†cf. Table XXVIII *infra*.

A large crop is likely to cause embarrassment even under the most favourable circumstances, and this tendency was accentuated in 1930-31 on account of the economic depression which paralysed world trade from 1929-30 to 1933-34. Naturally, it affected the jute industry as well, both in India and in foreign countries. The immediate result was the accumulation, here and abroad, of vast stocks of unsold jute goods. Therefore, everywhere mills adopted measures to restrict production. Consequently, the exports of raw jute decreased to 3,416,000 bales in 1930-31 and 3,113,000 bales in 1931-32, the latter being the lowest figure on record since 1923, excepting 1939-40 which may not be considered a normal year due to the outbreak of war in Europe.

366. Mills in India were forced to take steps to overcome their difficulties. The first measure adopted to regulate the production of jute goods to world demand took the form of the mills within the

TABLE XXVIII
Export of Raw Jute to Foreign Countries.
(000 bales)

Season (July to June)	United Kingdom	Germany	France	U.S.A.	Italy	Belgium	Others	Total
1929-30	940	1,227	544	448	295	281	777	4,512
1930-31	624	891	490	303	236	257	615	3,416
1931-32	795	676	281	232	251	239	639	3,113
1932-33	822	860	404	220	235	235	737	3,513
1933-34	968	774	505	342	407	284	968	4,248
1934-35	975	952	459	287	466	364	883	4,386
1935-36	897	770	429	466	226	309	1,039	4,136
1936-37	1,112	625	458	608	501	348	1,232	4,884
1937-38	802	893	349	361	339	337	647	3,728
1938-39	1,005	475	433	227	221	190	1,333	3,884
1939-40* (7 months)	551	9	323	160	65	93	604	1,795
(whole season)	—	—	—	—	—	—	—	2,968

*Publication of detailed figures was stopped with effect from February 1940.

Source:—Annual Statement of Seaborne Trade of British India. (The basis has been changed from fiscal year to jute season.)

Indian Jute Mills Association reducing working hours from 60 to 54 per week with effect from 1st July 1930. A few days later, on 4th July, a Subsidiary Agreement came into force, requiring the closure of all member mills for one full working week in each of the months of July, August and September 1930. Thus, with the very large jute crop, the huge stocks of jute goods, and the drastic curtailment in the working hours of jute mills, the stage was set for the descent of jute prices to unprecedented levels. The average price of *pucca* bale jute in season 1930-31 was Rs. 30-7-3, against Rs. 54-14-4 and 68-8-3 in 1929-30 and 1928-29 respectively.

TABLE XXIX
Stocks of Jute and Manufactures.

1st July	Raw Jute with Association mills (ooo bales)	Manufactured Goods (million yards)				Total stocks (Indian and American)
		Indian Stocks			American Hessian (Spot & Afloat)	
		Hessian	Sacking	Total		
1930	3,480	255	149	404	339	743
1931	5,320	222	122	344	260	604
1932	4,140	162	112	274	232	506
1933	4,640	73	169	242	248	490
1934	4,430	125	93	218	228	446
1935	4,930	79	140	219	225	444
1936	3,940	69	137	206	285	491
1937	3,340	97	101	198	367	565
1938	2,650	428	171	599	326	925
1939	2,063	450	186	636	265	901
1940	1,881	234	212	446	294	740
Average	3,710	199	145	344	279	623

Prices for jute goods also received a severe setback. The apathetic condition of the consuming centres may be gauged from the fact that there were offers from South American countries, in the last week of April 1931, to re-sell 11 porter hessians in the Calcutta market. Shipments of hessian and gunnies showed a serious decline. After reaching very high levels in 1925-26, the prices of manufactured goods had adopted, on the whole, a downward tendency. The average prices of hessian cloth (9 porters) and Sacking bags (Heavy Ceas) declined respectively from Rs. 18-12-4 per 100 yards and Rs. 62-6-2 per 100 bags in 1925-26, to Rs. 12-7-3 and Rs. 33-15-9 in 1929-30. And, in

1930-31, they dropped, still further, to Rs. 8-9-5 and 27-13-8 respectively.

TABLE XXX
Exports of Jute Manufactures from India.
(in tons)

Season (July to June)	Hessian			Sacking			General† Total
	Cloth	Bags	Total	Cloth	Bags	Total	
1929-30	409,073	45,603	454,676	33,181	448,594	481,775	944,963
1930-31	289,702	35,080	324,782	15,752	358,856	374,608	716,322
1931-32	251,209	38,941	290,150	11,950	343,816	355,766	662,271
1932-33	269,008	38,112	307,120	14,816	352,895	367,711	685,395
1933-34	250,640	45,139	295,779	17,850	342,178	360,028	666,546
1934-35	274,748	47,984	322,732	16,534	366,265	382,799	724,109
1935-36	324,113	58,396	382,509	16,442	373,949	390,391	834,828
1936-37	446,548	60,932	507,480	21,551	477,469	499,020	1,058,374
1937-38	396,187	60,807	456,994	20,917	500,742	521,659	999,886
1938-39	376,173	76,528	452,701	18,974	461,503	480,477	954,313
1939-40*							1,145,835

† General total also includes exports of twists, yarn, canvas, rope and twine.

* Publication of detailed figures was stopped with effect from February, 1940.

367. **1931-32**—As the prices of jute were particularly low during the first quarter of 1931, much less land—roughly 53 per cent. of the previous season's acreage—was put under that crop in 1931-32; and, the total yield was estimated at about half of that of 1930-31. But, owing to the curtailed production of jute goods, the "estimated purchases" of the mills in India were on a low level, amounting to 3,782,000 bales in 1931-32 against 7,150,000 in the previous season.¹ Exports also decreased, by about 9 per cent. Nevertheless, on account of the very small crop, the average price of jute remained steady in 1931-32—Rs. 32-11-9 per *pucca* bale.

Stocks of manufactured goods on 1st July 1931, both in India and America, were 19 per cent. less than those of the previous season. Exports of hessians, as well as sacking, however, declined further owing to a general lack of support from consuming countries. Moreover,

1. The "estimated (or probable) mills' purchases" are represented by "Calculated production less Exports and Village Consumption", cf. Table LXIX, p. 240, "First Report on the Marketing and Transport of Jute in India."

frequent rumours regarding mills' working hours, had an unsettling effect on the market. As a result, the average prices of 9 porters and Heavy Cees in 1931-32, dropped to Rs. 8-5-0 per 100 yds. and Rs. 25-15-4 per 100 bags respectively.

368. **1932-33**—In this season exports of raw jute from India increased by 4 lacs of bales. And, the estimated purchases of mills also improved, by about 38 per cent., to 5,213,000 bales. Thus, there was every likelihood that the price of jute would also have gone up if the supply of fibre had not increased substantially. But, what actually happened was that the prices of jute in the first quarter of 1932—although appreciably less than in the preceding three months—were high enough to tempt the growers to put more land under jute cultivation. Consequently, according to forecast estimates, about 15 per cent. more land was sown with jute in 1932-33, resulting in an increased production of more than 27 per cent. over the previous season. Hence, the average price of jute in 1932-33 proved to be substantially lower—Rs. 28-0-9 per *pucca* bale (Firsts).

The prices of jute goods improved appreciably in the first and last quarters of the 1932-33 season. The former rise was due to better demand from overseas markets, considerable interest being shown by both speculators and shippers. The next six months were, however, notable for almost complete absence of demand from foreign countries. Small holders further weakened the market by hurried selling on various occasions when prices were on the down grade. Nevertheless, prices firmed up during the period April to June, 1933, mainly on account of the strong speculative demand for near as well as forward positions, following news of the American embargo on the export of gold. But, Overseas markets did not support the view of the Calcutta speculators and displayed little interest during that period. Considering the disturbed conditions which prevailed in many foreign countries, the exports of jute goods in 1932-33 may be regarded as satisfactory. The average prices for the season were Rs. 8-11-9 per 100 yds. of 9 porters and Rs. 24-9-2 per 100 bags of Heavy Cees.

369. **1933-34**—The estimated purchases of mills in India did not undergo any appreciable change ; and the quantity of jute consumed by them also remained stationary, as may be seen in Table XXXIII. But as a result of better demand from the United Kingdom¹ and the Continent, the exports of raw jute increased by about 21 per cent.

1. Dundee consumed more jute in 1933-34: for 12 months ending 30-6-34, the consumption amounted to 886,000 bales as compared with 727,000 in 1932-33 ; 710,000 in 1931-32 and 650,000 in 1930-31.

TABLE XXXI
Monthly Prices of Pucca Bales (400 lb.) of Jute (Firsts)
(in rupees)

Season	July	August	September	October	November	December	January	February	March	April	May	June	Average
1924-25	67 0	74 0	80 0	87 0	88 0	82 0	80 14	82 4	96 7	109 2	104 9	101 1	87 11 1
1925-26*	96 5	94 3	96 11	117 6	128 12	125 7	126 0	117 10	105 7	97 7	91 0	86 12	106 14 8
1926-27	76 13	61 11	64 3	59 2	59 11	59 14	64 11	61 13	60 15	60 7	56 0	59 12	62 1 4
1927-28	63 13	74 6	69 5	62 11	60 7	63 0	62 7	61 6	61 6	67 6	68 12	68 14	65 5 1
1928-29	75 13	79 0	68 2	65 15	66 5	67 3	69 1	72 12	71 1	65 5	62 1	59 9	68 8 3
1929-30	63 13	65 14	62 12	58 5	54 12	55 0	54 13	53 10	46 12	49 12	48 10	44 11	54 14 4
1930-31	38 12	35 5	30 14	30 0	29 11	29 8	27 4	26 7	27 1	29 14	30 5	30 6	30 7 3
1931-32	27 8	28 9	32 4	37 2	41 14	39 12	36 0	33 0	34 0	29 12	28 0	25 0	32 11 9
1932-33	25 4	32 7	32 11	28 13	27 6	25 14	25 6	24 4	24 10	26 8	32 2	31 4	28 0 9
1933-34	29 7	28 8	26 0	24 15	24 0	24 13	28 12	28 6	28 5	28 0	25 10	24 8	26 12 4
1934-35	24 0	25 0	24 12	25 8	27 0	30 0	31 12	30 12	30 10	31 12	35 8	37 4	29 7 10
1935-36	34 4	32 4	29 12	34 4	37 12	37 6	37 0	34 12	36 4	34 12	33 8	30 10	34 5 11
1936-37	29 0	31 0	30 4	31 4	34 0	34 14	34 0	34 4	35 12	39 12	41 14	38 10	34 8 10
1937-38	38 0	37 6	37 0	37 4	36 4	33 8	32 4	32 0	31 14	30 4	31 0	29 4	33 13 4
1938-39	33 14	35 2	34 12	35 2	33 14	34 2	38 2	44 7	44 8	52 14	56 5	53 4	41 5 10
1939-40†	44 15	38 6	49 7	49 14	78 6	95 4	90 14	83 15	74 5	66 4	66 12	57 2	66 4 8
1940-41	46 0	41 8	33 9	32 9	33 5	39 4	—	—	—	—	—	—	—

*In November 1925, jute touched Rs. 140-8-0 per bale.

†On 4th December, the maximum quotation reached Rs. 112-0-0 per bale.

Source:—*Annual Statistical Review*, published by Messrs. Moran & Co. Ltd., (Brokers), Calcutta.

TABLE XXXII

Monthly Prices of Hessian Cloth (9 porters) per 100 yards
(in rupees)

Season	July	August	September	October	November	December	January	February	March	April	May	June	Average
1924-25	15 14	18 4	18 8	20 4	20 10	18 11	17 11	17 7	18 13	17 14	16 6	16 13	18 1 7
1925-26	18 3	18 9	18 15	21 3	21 6	26 6	20 8	18 7	16 1	15 15	14 11	15 0	18 12 4
1926-27	15 7	15 3	14 11	15 1	14 10	14 8	14 11	14 6	15 2	15 12	15 4	15 6	15 0 1
1927-28	16 9	19 12	17 14	17 3	17 9	17 8	16 14	17 15	17 8	19 2	20 1	19 4	18 1 7
1928-29	20 2	20 1	16 12	15 6	16 4	16 1	16 0	16 5	16 5	15 4	14 4	13 5	16 5 5
1929-30	14 6	16 5	15 5	13 4	12 4	11 12	11 6	11 4	10 10	11 2	11 3	10 10	12 7 3
1930-31	10 1	9 13	8 12	7 15	7 13	7 8	8 0	9 1	8 12	8 12	8 8	8 2	8 9 5
1931-32	7 9	7 7	8 5	8 13	9 7	9 7	9 0	8 12	8 9	7 12	7 7	7 4	8 5 0
1932-33	7 10	8 7	8 15	8 8	8 8	8 7	8 4	8 0	8 0	8 11	10 3	11 4	8 11 9
1933-34	11 3	11 2	9 7	8 15	9 0	9 1	9 14	10 2	9 10	9 10	9 0	8 7	9 9 11
1934-35	8 7	8 12	8 10	8 11	8 13	8 13	9 4	9 6	9 6	9 0	9 8	10 0	9 0 10
1935-36	9 14	9 6	7 12	8 8	9 2	8 12	8 0	7 10	7 8	7 12	8 2	8 0	8 5 10
1936-37	7 10	7 12	7 6	7 4	7 8	7 8	7 8	7 6	7 12	9 8	9 6	8 6	7 14 6
1937-38	8 4	8 2	7 10	7 10	7 4	7 0	6 13	6 13	6 14	6 9	6 7	6 7	7 2 5
1938-39	6 14	7 0	7 4	7 10	7 11	7 12	8 6	9 6	9 1	9 9	9 9	9 2	8 4 4
1939-40	8 15	8 12	13 1	14 3	19 10	20 14	18 7	14 8	13 3	13 7	13 10	11 7	14 2 9
1940-41	10 10	10 4	10 14	11 9	12 4	12 10	—	—	—	—	—	—	—

Source:—Annual Statistical Review, published by Messrs. Moran & Co. Ltd., (Brokers), Calcutta.

Nevertheless, the price of jute declined further. Possibly, the greatest harm was done by a 13 per cent. increase in the estimated jute crop. Moreover, although it was thought that the lowest point of the depression had been reached in 1932, disturbed conditions continued to prevail in many consuming markets on account of financial difficulties in Germany, London houses restricted credit to Continental buyers, consequently banks in India intimated their inability to handle German documents unless they were drawn against London credit. Again, the probable effect of the imposition in the United States of the Processing Tax on jute goods obscured long range considerations. As a result, the average price of *pucca* bale (First) in 1933-34 dropped to Rs. 26-12-4, which constitutes the lowest record for a season's price in the whole of the present century.

TABLE XXXIII
*Purchases and Consumption of Mills in India.*¹
(000's bales)

Season	Probable Purchases	Consumption ²
1929-30	6,443	—
1930-31	7,150	—
1931-32	3,782	—
1932-33	5,213	5,082
1933-34	5,190	5,081
1934-35	5,669	5,414
1935-36	4,232	5,894
1936-37	6,004	7,060
1937-38	7,810	7,542
1938-39	4,977	6,605
Average.		6,097

Note—Jute consumption for earlier years cannot be given as no statistics were published before 1932-33.

1. cf. Tables LXIX and LXXI (pp. 240, 241), *First Report on the Marketing and Transport of Jute in India*.

2. Vide "*Monthly Statistics of the Production of Certain Selected Industries of India*".

Demand for Indian jute goods, in 1933-34, did not show any improvement. It was considered that on account of the lack of stability in the political and economic situation in Europe and America, trading in all commodities was likely to remain restricted except for immediate

requirements. Moreover, the sharp advance in Calcutta prices in May and June, 1933, had diverted many orders for hessian cloth to Dundee. Similarly, the statistics on the subject of the Continental export of hessians to the United States showed an immense increase, as follows—

October—December, 1932	...	89	lacs of yards
January—March, 1933	...	52.5	" " "
			<hr/>
Total	...	141.5	" " "
			<hr/>
April—June, 1933	...	74	lacs of yards
July—September, 1933	...	245	" " "
			<hr/>
Total	...	319	" " "
			<hr/>

Export of hessian cloth from the Continent to Buenos Ayres had also increased during that period. The average price of 9 porters, however, improved to Rs. 9-9-11, while Heavy Ceers declined further to Rs. 23-8-1. It may be noted that, on the whole, hessians appreciated both in 1932-33 and 1933-34, but sacking continued on the down grade.

370. 1934-35—The estimated production of jute in 1934-35 increased by over 5 lac bales. Actually, after the drastic reduction in the cultivation of jute in 1931-32, both the estimated acreage and outturn increased year after year despite the low prices. During the season under review, exports of raw jute improved, although the imports by individual countries were irregular owing to various economic factors, such as quotas, tariffs, foreign exchange difficulties and currency restrictions. Further, the Indian Jute Mills Association decided, in April 1934, to release gradually their sealed looms, which resulted in a greater consumption of jute in 1934-35. Certain other factors also influenced the prices during that season. For example, the Government of Bengal announced its intention to restrict the next season's crop. Moreover, excessive rain in August, 1934, which affected the outturn of the important highland crop, a strong bullish tendency in the speculative futures market and expectations of a general increase in demand towards the end of 1934 and beginning of 1935 together imparted a firm tone both to spot and *phatka* quotations. The average price of jute in 1934-35, was Rs. 29-7-10 per bale. During the period under review, the total exports of jute goods from India improved by about 9 per cent. and, on the whole, prices remained fairly steady. One of the outstanding features was the absence of long periods of almost complete disinterestedness by consuming countries, which had been a feature for so many years. Owing to various reasons—such as, labour trouble in the western seaboard of the U.S.A., uncertainty of exchange,

TABLE XXXIV
Monthly Prices of Heavy Cees (per 100 bags)
(in rupees)

Season	July	August	September	October	November	December	January	February	March	April	May	June	Average
1924-25	51 0	53 8	56 12	56 0	64 6	61 4	62 15	64 10	68 1	65 12	54 14	57 7	60 7 5
1925-26	61 12	63 2	64 9	72 0	71 6	72 5	68 6	62 0	55 15	56 2	51 0	50 1	62 6 2
1926-27	48 1	46 1	48 1	51 1	51 8	49 8	47 8	50 4	51 6	48 8	44 7	44 9	48 6 6
1927-28	46 1	48 7	48 0	47 5	49 14	48 10	48 8	48 7	47 13	47 1	45 8	45 13	47 9 11
1928-29	47 1	46 1	45 2	44 9	45 2	45 5	44 12	44 10	43 12	39 13	36 6	34 4	43 1 1
1929-30	35 8	38 7	38 7	34 14	34 1	33 11	32 8	32 12	31 7	31 9	32 2	32 7	33 15 9
1930-31	31 4	31 6	30 4	26 12	26 8	27 10	27 13	29 5	27 13	26 14	25 3	23 8	27 13 8
1931-32	21 4	22 14	24 5	26 6	28 14	31 8	30 13	29 1	28 3	23 1	22 12	22 7	25 15 4
1932-33	23 10	25 8	28 0	26 8	26 5	24 15	24 0	22 3	21 2	22 8	24 15	25 4	24 9 2
1933-34	25 2	23 12	22 14	21 14	23 1	23 1	23 6	24 4	24 4	23 10	23 8	23 5	23 8 1
1934-35	23 8	24 6	24 14	25 2	25 0	25 4	25 8	25 12	25 0	24 2	24 10	25 4	24 13 10
1935-36	24 12	23 8	21 12	22 8	22 0	21 12	21 8	20 12	20 4	20 8	20 4	19 8	21 9 4
1936-37	19 2	19 6	19 8	19 4	19 12	20 12	21 10	21 10	20 14	22 4	22 10	21 6	20 10 10
1937-38	21 6	22 0	21 14	21 12	21 6	20 8	19 14	20 1	20 5	19 11	19 10	19 12	20 10 11
1938-39	20 14	20 14	20 14	22 4	22 11	23 14	24 12	27 8	27 2	28 0	28 4	27 4	24 8 5
1939-40	27 2	26 2	34 8	38 2	51 0	58 14	56 12	47 0	43 14	38 0	37 0	30 14	40 12 4
1940-41	28 9	28 0	29 12	31 12	32 2	31 14	—	—	—	—	—	—	—

Source:—Annual Statistical Review, published by Messrs. Moran & Co. Ltd., (Brokers), Calcutta.

devaluation of the dollar and its effect on American markets, etc.—shipments of hessian cloth to the States declined by 36.5 million yards, and Canada also imported 12 million yards less ; but the deficiency was more than made up by an increase of 61.7 millions in the Argentine's offtake. Similarly, although Australia's purchases of heavy goods decreased by 23 million bags—and, some other countries also (e.g. the Straits Settlements, Hong Kong, Chile, etc.) took smaller quantities—bigger orders were received from Thailand (Siam), Japan, Cuba, South Africa, etc. The poor demand for cornsacks from Australia may be attributed partly to the attempts made to extend the facilities for the bulk-handling of grain under statutory protection. From time to time, certain other factors—such as, failures in Bombay and London commodity markets, cabinet crises in Britain, the consequent uneasiness in money markets, surplus stocks in all consuming centres, etc.—depressed the markets. Thus, the average price of 9 porters dropped, by nine annas, to Rs. 9-0-10 per 100 yds. The price of Heavy Cees, however, advanced to Rs. 24-13-10 per 100 bags ; this was the first season since 1929-30, when an improvement was noticeable in the annual price of sacking.

371. **1935-36**—In 1935-36, the estimated area and outturn of jute decreased by about 18 and 15 per cent. respectively, which may be attributed, firstly to adverse weather conditions prevailing during the growth of the crop, and secondly to the fact that, with a view to stabilize jute prices, the Government of Bengal organized a propaganda campaign in 1935 for the voluntary restriction of jute sowings to approximately three-fourths of the 1934-35 acreage. A third feature was the increase in production by mills within the frame work of the Indian Jute Mills Association. World trade conditions having continued to improve, most of the looms were gradually brought into operation. And, in January 1936, as negotiations between the Indian Jute Mills Association and the mills outside its membership to limit production broke down, the member mills released the remaining 5 per cent. looms. Later, from 6th April, the associated mills increased their working hours from 40 to 45 hours per week. As a result of this consumption of mills increased. Exports of raw jute however declined by 2.5 lac bales.

Following the failure of negotiations to bring about limitation of production the rates tended to decline towards the latter part of the season. But, on the whole, 1935-36 witnessed considerable improvement in prices, the average for the season being Rs. 34-5-11 per bale, which was 17 per cent. higher than in the previous year.

With the return of a large measure of stability in exchanges and the revival of trade in most countries of the world, the exports of jute

goods also registered a big increase in 1935-36. But, on account of uncontrolled production and unrestricted competition among themselves, mills in India were forced to sell at comparatively low prices, in order to avoid the accumulation of stocks. Therefore, in Calcutta the market for manufactured jute, both in the near and forward positions, ruled extremely nervous, thereby placing overseas buyers in a favourable position which they exploited to the full. Once again, a downward tendency was noticeable in the prices of jute goods, the season's average being Rs. 8-5-10 for 9 porter hessian and 21-9-4 for Heavy Ceas.

372. **1936-37**—The jute acreage and outturn increased by 32 and 33 per cent. respectively. And the exports of raw jute also improved, by about 750,000 bales, which was in some measure due to the healthy trading conditions obtaining throughout the world during the latter months of 1936, although impetus was given to foreign manufacturing centres by strikes which occurred in a number of Calcutta mills in the first half of 1937. Moreover, as the dispute between mills in India, in regard to contract of working hours, had not been composed, those within the membership of the Indian Jute Mills Association followed a policy of unrestricted working, which in a few cases amounted to over 90 hours weekly and even more in several non-member mills. This large increase in output naturally called for heavy purchases of fibre and consumption figures for the year rose approximately by 20 per cent. over that of 1935-36. Consequently, the average price of a *pucca* bale remained almost unchanged at Rs. 34-8-10 in spite of a large crop.

Season 1936-37 opened with reduced stocks of jute manufactures in India. But the stocks of hessians in America showed a rise largely due to consumers there taking advantage of the low rates and buying in excess of requirements, which had increased considerably over the year, i.e. 768 million yards in 1936 against 612 in 1935. During the depression American consumers had practised strict economy confining their purchases to the absolute minimum of new cloth and sacks using for preference second hand fabrics and bags with the consequence that the consumption of new hessian dropped considerably, i.e., 632 and 476 million yards in 1931 and 1932. By 1934, however, the supply of suitable used bags had been practically exhausted and, by 1935, trade in new fabrics was well on the way to recovery. The 1936 figure indicated a close approach to that of 1930, when consumption (exclusive of the Pacific Coast and Canada) had amounted to 774 million yards. Further, the season 1936-37 was marked by a distinct acceleration in the process of world economic recovery. Accordingly, India exported larger quantities of jute goods: this was also due to the price war then in progress between jute mills in India, which, in turn, was responsible

for jute goods touching new low levels. The average prices of 9 porter hessians and Heavy Ceess, in 1936-37, were Rs. 7-14-6 per 100 yds. and Rs. 20-10-10 per 100 bags respectively.

373. **1937-38**—Although the area under jute remained remarkably close to that of the previous season, the estimated crop decreased by about one million bales owing to bad growing conditions. 1937-38 was rather a bad year for business in general. The political situation in Central Europe was one of the causes for the restriction of enterprise in most parts of the world but, probably, the chief factor was the general setback in North American trade conditions. In the matter of jute goods, the heavily over-bought position made the United States go through a corrective period of bringing supply into line with demand. Other causes as well—e.g. labour troubles and heavy taxation—contributed towards uncertainty and lack of confidence. Shipments of raw jute dropped by over one million bales. On the other hand, as there was no agreement among them as regards working hours, mills in India continued the unrestricted production of all types of goods in 1937-38. Thus, their total consumption reached the record figure of 7,542,000 bales—i.e. roughly half a lac bales more than in the previous season. Still, prices declined on the whole, the average per *pucca* bale being Rs. 33-13-4. In all probability, the weakness in the finished goods market caused this sympathetic reaction in raw fibre.

374. On 1st July, 1937, stocks of manufactures in Calcutta were lower than the corresponding figures of the preceding year. This was attributed to reduced production resulting from a prolonged strike in the first half of 1937. With the settlement of the strike, however, output advanced considerably. The monthly production of hessians and sacking are shown in Table XXXV. Simultaneously, on account of trade recession in the United States and other countries, consumption fell off seriously, with the consequences that stocks of hessians began to accumulate—from 69 million yards in Calcutta on 1-7-36, they reached 97 on 1-7-37 and 428 on 1-7-38. As a result of internal adjustment in the industry, under which many sacking looms were engaged in the production of narrow hessian, stocks of gunny cloth and bags in India were kept at comparatively low levels. In America, however, there was a heavy accumulation of hessian, and stocks on 1-7-37 were reported at 367 million yards—i.e. an increase of about 30 per cent. over the previous season's opening stocks. The cumulative effect of these factors was that the values of hessians depreciated throughout the season. The index numbers of prices, given in Table XXXVI show that, compared with 1936-37, *pucca* bales (Firsts) and 9 porters respectively dropped one and eight points in 1937-38, while heavy Ceess remained unchanged.

375. **1938-39**—More land was sown with jute in 1938 than in any year since 1930—being estimated at 3,166,000 acres—but weather conditions were generally unfavourable for the growth and development of plants and incessant rainfall and floods caused serious damage in most of the districts. Therefore, according to the revised estimates,

TABLE XXXV

(In millions)

Month	Hessian				Sacking			
	Cloth		Bags		Cloth		Bags	
	1936-37	37/38	36/37	37/38	1936-37	37/38	36/37	37/38
	Yds.	Yds.	No.	No.	Yds.	Yds.	No.	No.
April	124	113	16	10	4	5	48	42
May	126	143	11	11	5	6	46	50
June	132	160	11	11	6	7	47	57
July	152	167	13	10	6	9	53	59
August	153	170	11	9	5	7	52	58
September	165	174	11	9	5	7	55	59
October	160	144	10	9	6	5	53	50
November	154	168	11	17	6	7	51	57
December	165	171	12	11	7	5	56	59
January	159	162	12	12	6	6	56	56
February	141	140	10	14	6	5	50	50
March	132	163	13	19	6	7	50	50
Total	1,763	1,875	141	142	68	76	617	656

the crop amounted to 6,844,000 bales only, which was approximately 20 per cent. less than in the previous season. Further, there was no distinct improvement in the demand for jute and its manufactures as the effects of the general setback to world trade persisted, to some extent at least, during the second half of 1938 as well. At the same time, the political situation in Europe deteriorated, and fear of war restricted the free flow of trade. While there was small improvement in the exports of raw jute, shipments of hessians declined slightly and those of heavy goods decreased by about 8 per cent. Australia's offtake dropped again despite a large wheat crop, which seemed to confirm the reports received on various occasions that silo systems were gradually being extended. The use of second hand bags was also reported to be partly responsible for the Commonwealth's smaller purchases from Calcutta.

376. The production of jute fabrics in India had been more or less uncontrolled during the previous two seasons and still mills were as far as ever from settling amicably their dispute regarding regulation of working hours. Consequently, the Government of Bengal promulgated an Ordinance on 9th September, 1938, with a view to adjusting

TABLE XXXVI
Average Prices and Index Numbers of Jute and Manufactures

Season	Pucca Bale (Firsts)		9 Porters		Heavy Cees	
	Price (Rs.)	Index No. (July 1914 = 100)	Price (Rs.)	Index No. (July 1914 = 100)	Price (Rs.)	Index No. (July 1914 = 100)
1924-25	87 11 1	110	18 1 7	196	60 7 5	178
1925-26	106 14 8	134	18 12 4	203	62 6 2	184
1926-27	62 1 4	78	15 0 1	162	48 6 6	142
1927-28	65 5 1	82	18 1 7	196	47 9 11	140
1928-29	68 8 3	86	16 5 5	177	43 1 1	127
1929-30	54 14 4	69	12 7 3	135	33 15 9	100
1930-31	30 7 3	38	8 9 5	93	27 13 8	82
1931-32	32 11 9	41	8 5 0	90	25 15 4	76
1932-33	28 0 9	35	8 11 9	94	24 9 2	72
1933-34	26 12 4	33	9 9 11	104	23 8 1	69
1934-35	29 7 10	37	9 0 10	98	24 13 10	73
1935-36	34 5 11	43	8 5 10	90	21 9 4	63
1936-37	34 8 10	43	7 14 6	85	20 10 10	61
1937-38	33 13 4	42	7 2 5	77	20 10 11	61
1938-39	41 5 10	52	8 4 4	89	24 8 5	72
1939-40	66 4 8	83	14 2 9	153	40 12 4	120

the productive capacity of mills to the known and visible demand for goods. Thus, with effect from 26th September, 1938, "all mills in Bengal were required to work their looms only 45 hours per week with the exception of such mills whose total complement of looms did not exceed 175, they being permitted to work 72 hours per week". On 19th February, 1939, however, the Jute Ordinance was withdrawn by the Government, and the next day the mills brought a Working Time Agreement into operation, under which they worked 45 hours per week until 31st July, 1939. These stabilizing factors received considerable support from the first order for sandbags (200 millions)—equivalent to 2 lac bales of jute—which was placed by the British Government in February, 1939. Mainly on account of the short crop, the prices of jute and its manufactures remained steady during the first half of the season; and, from January 1939 onwards, particularly after mills entered the *pucca* bale market, rates advanced. Speculative activity,

combined with various rumours connected with the mills' working hours and the expectations of further sandbag orders, imparted additional strength to the market. As a result, in 1938-39, the average prices of *pucca* bales, 9 porter cloth and Heavy Cees showed a substantial advance over the previous year, being Rs. 41-5-10, 8-4-4 and 24-8-5 respectively. It may be mentioned, for the sake of comparison, that the respective index numbers of prices of the three commodities were 52, 89 and 72 in 1938-39, against 42, 77 and 61 in 1937-38, and 38, 93 and 82 in 1930-31.

C. REVIEW OF PRICES (July, 1939, to December, 1940)

377. **1939-40**—This season will long be remembered in the annals of jute industry, especially by the manufacturers. It was a period of enormous production, large exports (of jute goods), decreasing stocks and high prices. This change was wholly due to the war conditions prevailing during the last ten months of the season. In the first two months prospects were definitely gloomy for jute and its manufactures. From March—and particularly from May, when prices had touched very high levels on account of shortage of supplies and speculative operations—exports of raw jute had been declining rapidly, and in July the total shipments amounted to 21,000 tons only, which appears to be one of the lowest figures on record. The exports during the first six months of 1939 were: January—62,000 tons, February—69,600, March—60,500, April—53,400, May—43,900 and June—34,000 tons. Moreover, no support for the market was available from the mills. The order for the 200 million sandbags was completed by the end of July, and no further orders were apparently forthcoming. Therefore, on 31st July, 1939, the associated mills brought into force a Supplementary Working Time Agreement, whereby "it was agreed to reduce hours of work per week to 40, and to seal the requisite number of hessian looms—20% and sacking 7½%—to make up a total of loom hours on the basis of a working week of 45 hours."

378. Simultaneously, reports were being received of a large crop, growing under favourable conditions. (According to the revised forecast estimates, the total outturn of fibre in 1939 amounted to 9,750,000 bales, some 42 per cent. more than that of the previous year and about one lac bales more than in 1936-37). The cumulative effect of all these factors was that the stockists became anxious to get sales for early shipment. Consequently, the prices of raw jute declined heavily in July. And, during the first three weeks of August, business was

practically at a standstill, the rates being purely nominal. It was in these circumstances that the Government of Bengal issued, on the 21st of August, an Ordinance under which the minimum price for raw jute in the futures market was fixed at Rs. 36-0-0 per bale. Subsequently, another Ordinance, fixing the minimum rate for 9 porters at the hessian futures at Rs. 8-14-0 per 100 yds., was promulgated on the 25th of that month. These measures had a steadying effect on the markets. And, in the fourth week, when tension in Europe was increasing, buyers bought in the bazar heavily for forward position at advancing rates.

379. The most important bullish factor, however, was introduced on the 3rd of September, 1939, when Great Britain declared war on Germany. After that, many important events took place in quick succession, which may be summarized as follows—

8th September	—	Mills received a second order for sandbags (60 millions) from the British Government ;
15th "	—	Member mills (of the Indian Jute Mills Association) made an informal agreement to buy loose jute at a rate not over Rs. 9-4-0 per md. for <i>Jat</i> middles ;
19th "	—	Mills received a third order for sandbags (152 millions) ;
25th "	—	Mills increased working hours from 45 to 54 per week.

As soon as the news of the declaration of war arrived, large orders were placed with shippers and mills at increasing prices by overseas buyers while the sandbag orders brought in speculators who kept the market buoyant. Good support was also lent by heavy American purchases. As a result, rates advanced sharply, as will be seen from the monthly average prices given below—

		Pucca Bale (First)	9 Porters	Heavy Cees
July	1939	Rs. 44 15 0	Rs. 8 15 0	Rs. 27 2 0
August	"	" 38 6 0	" 8 12 0	" 26 2 0
September	"	" 49 7 0	" 13 1 0	" 34 8 0

380. During the last quarter of 1939, the tone of the market remained essentially strong. Bullish operators had gained the ascendancy and were pushing up prices in the expectation of further war orders and, although mills did succeed in buying considerable quantities of fibre at the fixed maximum prices, sellers in the *mofussil* became more and more reserved and the raw jute and goods markets continued firm. The fourth and the largest sandbag order (500 millions) from

the British Government, was received by mills on 28th October ; and in November, further orders for sandbags, canvas, etc., were placed by the Government of India and some foreign countries. With a view to coping with this increased business, the associated mills commenced working 60 hours per week with effect from 3rd November. And on 7th November, the informal agreement between the mills—made on 15th September—was abrogated, which caused much temporary excitement. Towards the end of the month, however, mills purchased fairly large quantities of loose and baled jute at prices which advanced rapidly. The jute futures market at this time exhibited a strong bullish influence on the trend of prices. The day to day turnover in this market was tremendous and rates appreciated sharply: the range of variation was Rs. 88-6-0 to Rs. 101-8-0 per bale on the 28th November, Rs. 100-0-0 to Rs. 108-0-0 on 29th and Rs. 104-8-0 to Rs. 111-0-0 on 30th. The minimum quotation on 1st November had been Rs. 61-4-0 per bale ; thus, futures quotations had increased by Rs. 50-0-0 within one month. Despite the fact that comparatively small business was done in December, jute futures touched Rs. 125-12-0 on the 4th, mainly on rumours of more sandbag orders—the highest spot rates for a *pucca* bale and 9 porter hessian on the same date were Rs. 112-0-0 and Rs. 23-12-0 respectively, and Heavy Cees were quoted at Rs. 59-0-0 on the 5th—after which there was a setback. The monthly average prices during this period were as follows:

		Pucca Bale (First)	9 Porters	Heavy Cees
October	1939	Rs. 49 14 0	Rs. 14 3 0	Rs. 38 2 0
November	"	" 78 6 0	" 19 10 0	" 51 0 0
December	"	" 95 4 0	" 20 14 0	" 58 14 0

381. By January, 1940, an unhealthy situation had developed in the jute and gunny markets. Export of raw jute to the Continent had virtually stopped, and trade with other countries was much reduced through the imposition of export and shipping restrictions: in 1939-40, total shipments of jute from India amounted to 2,968,000 bales only. The mills no doubt consumed larger quantities—7,459,200 bales—in meeting the war requirements of Great Britain and her allies. But, since November, 1939, they had been only occasional buyers, and complaints had been received from foreign countries—especially North and South America—regarding the high price of both raw and manufactured jute. As a result, for most of the time under review, the United States and the River Plate centres refrained from buying, and only spasmodic business was done with the United Kingdom. These dull periods made speculative dealers anxious to clear their holdings,

but their timidity disappeared—though temporarily—on the spread of rumours, generally false, of fresh war orders. Thus, from November, 1939, to January, 1940, prices were purely nominal, moving almost always in sympathy with 'futures' quotations.

382. Such was the condition of the market when, on 23rd January, it was announced that, in order to make smaller demands on shipping space in the future, mills had agreed, as a result of representations by the British Government, to extend the delivery period of the largest sandbag order (500 millions) by three months, i.e. up to the end of July 1940. Immediately on this information becoming public, the market collapsed and the jute futures prices fell by Rs. 20-8-0 (from Rs. 93-0-0 to 72-8-0) in four hours, which was considered to be an unprecedented decline. There was also a landslide in hessians owing to the same reason. The situation was further aggravated when the Excess Profits Tax Bill was published by the Government of India on the 27th January 1940. The public took rather an exaggerated view of the possible effects this measure would have on the industry of the country. These two events, consequently, proved to be the final turning points in the movements of jute and gunny prices. Although the average prices for January were only a few rupees less than those of December, the extent of the decline in the former month may be gauged from the following quotations—

	Highest	Lowest
Pucca Bale (First)	Rs. 104 0 0 (9.1.40)	Rs. 73 0 0 (27.1.40)
9 Porters	„ 21 0 0 (9.1.40)	„ 15 0 0 (29.1.40)
Heavy Cees	„ 63 8 0 (15.1.40)	„ 51 4 0 (30.1.40)

383. The rest of the season was, on the whole, one long period of dull trading conditions and falling prices. Overseas buyers did not show sustained interest, and withdrew from the market as soon as they noticed indications of the rates hardening. Occasionally, some steadiness was imparted on news of substantial business from overseas, or for other trade reasons, but it always proved to be of a transient character and could not stop the downward tendency. As an example may be cited the announcement, on 1st February, by the Government of Bengal of their policy of restricting jute sowings of 1940 to the crop of the previous year, and the actual promulgation of the Ordinance on 10th February, which had the effect of creating a firmer tendency. (It was, however, withdrawn towards the end of the month.) Moreover, some war orders were received by mills during the months under study, one particular order worthy of mention being for 52 million yds. of hessian cloth in March and a mixed order for various types of jute goods

valued at over Rs. 50,00,000. Further, the German invasion of the Scandinavian countries on 9th April led to the belief that, with the spread of war, the Allies would require more sandbags, but these expectations did not materialize. Again about two months later, with a view to preventing the rates from declining further, the Government of Bengal announced, on 3rd June, their intention to buy jute and during this month, they purchased about 50,000 bales at prices ranging between Rs. 57-0-0 and 59-0-0, which were Rs. 2 to 3 higher than current market quotations.

384. The war orders, coupled with this official effort, produced some result, but it had no lasting effect in the absence of genuine trade demand. Continued lack of real demand forced the associated mills to reduce their working hours from 60 to 54 per week with effect from April 8th. Later the entry of Italy into the war and the fall of France caused the loss of more markets. The inevitable pressure to sell following these events was further responsible for weakening prices. Lastly, reports from the jute growing districts indicated that the cultivators had sown a large area with jute and that a record crop was expected. (Ultimately, according to the revised Government forecast, the total production amounted to 125 lacs of bales.) In view of these conditions, another attempt was made, before the season closed, to stabilize the prices of jute and manufactures and, on 28th June, it was announced that the Indian Jute Mills Association had agreed to fixed minimum prices for raw jute and manufactured jute goods.¹

385. As has been pointed out earlier, the total exports of raw jute in 1939-40, had declined by about 24 per cent., and shipment of manufactures—excluding sandbags—could not be considered satisfactory.

Quantities of Jute and Goods Exported

	<i>1938-39</i>	<i>1939-40</i>	<i>Difference.</i>
Raw jute ...	693,500 tons	529,900 tons	(-) 163,600 tons
Manufactures ...	954,313 tons	1,151,987 tons	(+) 197,674 tons
Deduct on account of sandbags—			(-) 161,360 tons
		Net ...	(+) 36,314 tons

If allowance is made for the supply of hessians, sacking, canvas, jute webbing and twine, etc., it will be found that the exports of manufactured goods on account of ordinary trade had also decreased in 1939-40.

1. See Appendix K *infra*.

386. (*July-December 1940*)—The first half of 1940-41 season, taken as a whole proved to be a difficult period for the jute industry. Business with overseas markets was restricted throughout, mainly due to shortage of shipping space, as the following figures of the exports of jute and manufactured goods show.

TABLE XXXVII
Export of Jute and Manufactures from India
(000 tons)

Month	1940	1939	1938
<i>Raw Jute</i>			
July	8.1	21.0	43.0
August	11.3	37.2	40.9
September	10.8	45.0	66.6
October	16.7	31.6	66.1
November	12.0	64.7	83.3
December	21.9	60.4	70.2
July-December	80.8	259.9	370.1
<i>Jute Manufactures</i>			
July	70.4	75.8	84.2
August	80.8	104.9	87.0
September	85.3	101.3	86.2
October	89.1	84.9	96.1
November	76.3	100.3	85.4
December	63.3	99.1	74.7
July-December	465.2	566.3	513.6
<i>Raw Jute & Manufactures</i>			
July	78.5	96.8	127.2
August	92.1	142.1	127.9
September	96.1	146.3	152.8
October	105.8	116.5	162.2
November	88.3	165.0	168.7
December	85.2	159.5	144.9
July-December	546.0	826.2	883.7

387. The position of raw jute in particular, was unsatisfactory in the extreme. The adverse effects of the large crop and the complete loss of the Continental markets were greatly accentuated by the decision of the Indian Jute Mills Association to reduce mills' working hours

from 54 to 45 per week which came into force on August 19. Also, as from September 9, the Associated mills further curtailed production by closing for one week out of four. The war orders of June 1940 and the efforts of the Government of Bengal in the same month to stabilize jute prices steadied the markets temporarily, but the decline continued during the first four months of the season—Rs. 46-0-0 and 32-9-0 per *pucca* bale in July and October.

TABLE XXXVIII
Monthly Average Prices (1940)

Month	Pucca Bales (First)	9 Porters	Heavy Cees
July	Rs. 46 0 0	Rs. 10 10 0	Rs. 28 9 0
August	.. 41 8 0	.. 10 4 0	.. 28 0 0
September	.. 33 9 0	.. 10 14 0	.. 29 12 0
October	.. 32 9 0	.. 11 9 0	.. 31 2 0
November	.. 33 5 0	.. 12 4 0	.. 32 2 0
December	.. 39 4 0	.. 12 10 0	.. 31 14 0

In July and August, jute goods also remained weak, but from September onwards prices revived. Among factors which contributed to this were:—(i) an order for 58 million sandbags received in September, (ii) fair demand from overseas markets, mostly from the Far East and Australia, (iii) reduction of hessian stocks through restricted production, (iv) *bazar* dealers selling heavily for forward deliveries and making the most of the minimum prices, etc.

388. By November, a definite improvement was noticeable all round, and loose and baled jute rates also advanced, mainly in sympathy with the firm gunny market. In the following month, jute prices registered a big rise, which was chiefly due to the satisfactory outcome of a conference held at Delhi, in the first week of December, when representatives of the jute trade met and discussed the problems confronting the industry with members of the Central and Bengal Governments. The informal agreement already mentioned, of the previous June, between the Government of Bengal and jute mills, whereby the latter were to purchase loose jute at the usual *bazar* rates, but not less than the prices they had informally fixed as the minimum had not proved effective. There had been indications within a month or two of the agreement being made that mills were dissatisfied with its terms. But, it was not until November that the matters came to a head: on the 7th of that month, the Indian Jute Mills Association represented to the Government of Bengal that the mills could no longer

purchase jute at the minimum rates, as working costs had gone up and fibre coming into the bazar was of inferior quality. In order to rectify this, the mills wished to introduce a low "bottom" grade, and also to reduce the minima of prices. Ultimately, at the Delhi Conference mentioned above, it was settled that the mills would purchase certain specific quantities by fixed dates, at prices which were lower by a few annas per maund than those agreed to in June. It was further stipulated that should the mills be unable to maintain their commitments, they were to purchase on behalf of the Government of Bengal the amounts falling short of the specific quantities. The question of low grades was dropped.¹ Consequently, December's average price of *pucca* bales reached Rs. 39-4-0, with mills doing most of the buying. The market for fabrics was steady and an order for 60 million sandbags—equivalent to 63,000 bales of jute—helped to sustain the rates. Average prices of 9 porter hessian and heavy Cees in December 1940, were Rs. 12-10-0 and 31-14-0 respectively.

D. FACTORS AFFECTING PRICES

389. One fact stands out from the review of prices, namely, that the number and variety of conditions and circumstances which affect the markets for raw and manufactured jute are legion. With many factors operating simultaneously, particularly when the market reports available are neither detailed nor critical enough, it becomes altogether impossible to measure the extent to which prices are influenced by each of them individually. An attempt is, however, made below to classify the factors under different categories—Nevertheless, it should be pointed out that factors from (iii) to (x) are not independent of 'Demand' and 'Supply', but operate through them. It is only for facility of argument that they have been grouped under separate heads.

- (i) Demand,
- (ii) Supply,
- (iii) Weather reports and condition of crops,
- (iv) Stocks,
- (v) Operations in futures markets,
- (vi) Bulk-handling, and use of second hand bags and substitutes,
- (vii) Other economic factors,
- (viii) Political developments,
- (ix) Rumours, and
- (x) Governmental measures.

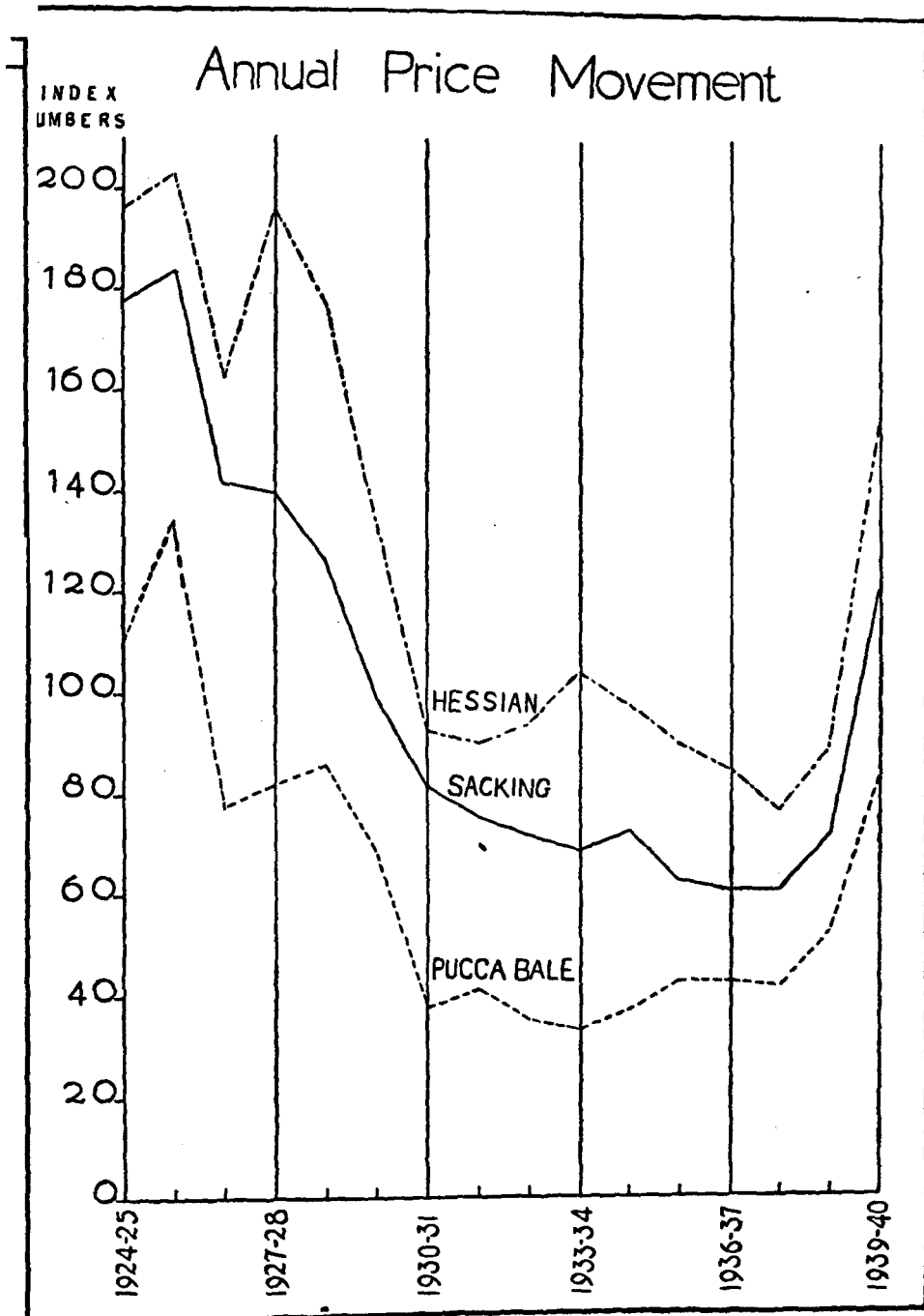
1. See Appendix L *infra*.

390. (i) *Demand*—The loose jute, baled jute and fabrics markets are so closely linked together that, generally speaking, fluctuations in one affect the others as well. Unless strong neutralizing elements are present, firmness in hessians, for instance re-acts favourably on loose jute, *pucca* bales and gunnies ; and *vice versa*. Further,

GRAPH II
*Showing the Movement of Prices
of Pucca Bales, Hessians and Gunnies*

as jute goods are mostly used as containers and wrappers for various commodities, the prices of raw jute are influenced not only by the demand for jute and fabrics, but also by the extent of prosperity enjoyed by industries consuming jute manufactures. For example, a slump in the building trade in the United States, to whatever cause it may be due, will affect the business in cement bags, and so bring about a lessened demand for raw jute, unless it is balanced by demand from some other quarter. It is obvious that this reduced demand ultimately re-acts upon the growers. Similar instances could be multiplied. Again, as between demand and supply, it is difficult to decide which plays the more important part in the determination of jute prices, but it cannot be denied that buyers usually have the upper hand and sellers have to agree to their terms, particularly when the consumers can choose a substitute for jute. This is so not only when mills and balers purchase fibre from growers, but also—though to a lesser degree—when the overseas consumers buy jute and goods from the balers and manufacturers in India. Lastly, in view of the increasing tendency towards bulk-handling and the greater use of second-hand bags and substitutes, jute and fabrics do not now occupy the same monopolistic position in the field of packing material as they did before 1914-18.

391. (ii) *Supply*—The quantity of jute harvested and the extent of goods produced by mills directly affect the prices of fibre and manufactures. Other things being equal, a large crop weakens prices all round, while a big turnover by mills is likely to improve the rates of jute and cheapen the fabrics, and *vice versa*. In the season 1935-36, for example, a short crop, combined with the increased consumption of mills, caused a considerable rise in jute prices, but the values of hessians and gunnies depreciated: the index numbers of prices of *pucca* bales, 9 porters and Heavy Cees in 1935-36 were 43, 90 and 63 against 37, 98 and 73 in the previous season. Again, on account of the removal of restrictions by the Indian Jute Mills Association, there was an all-round increase in the production of goods in 1937-38, with the result



GRAPH II

that, while *pucca* bales maintained their levels (42), 9 porters and Heavy Cees dropped further points (77 and 61). Many a time, in the course of a season, prices have advanced on reports of small arrivals of loose jute in up-country markets. For example, in the second quarter of 1939, the trade realized that the fibre then available could hardly meet the growing requirements ; consequently, there was a rush to procure supplies, and the rates for baled jute advanced from Rs. 44-8-0 in March to Rs. 52-14-0 and 56-5-0 in April and May 1939.

392. (iii) *Weather Reports and Condition of Crops*—The condition of a season's crop depends mostly upon weather: timely and sufficient rainfall, alternated with sunshine, during the period of growth is likely to help in the production of good quality fibre. Weather also plays an important part in the determination of the size of a jute crop: it has happened in some years that, owing to unfavourable weather, a large area sown has yielded a small crop, and *vice versa*. For example, in 1938, a total area of 3,166,000 acres was estimated to have been sown with jute, but it yielded 6,844,000 bales only ; while, in 1939, an estimated crop of 9,750,000 bales was obtained from about the same area, viz. 3,161,000 acres. Each year, from February—when the preparation of land is taken in hand and the early varieties sown—to July—when harvesting is usually well advanced—the prospects of the new crop are followed with keen interest both here and abroad ; and, almost every singular departure from the normal—e.g., shortage or excess of rains at the time of sowing, germination or harvesting, or during the period of growth causes repercussions, either mild or violent according to the gravity of the news, in the markets. Many firms of jute merchants in Calcutta have, for years, published weekly reviews of the jute crop. These contain notes of the condition of the crop in general, together with the extent of rainfall in at least 12 important jute growing centres. Further, the condition of crops, in foreign countries, for the packing of which jute fabrics are used, has a direct and most important effect on the prices of jute goods, and ultimately on the price of the fibre itself. Unfavourable reports regarding the North American and Australian wheat crops, for example, ordinarily influence the hessian rates, at least for a short time, while the *pucca* bale and loose jute markets are also likely to respond in a similar manner, although the reactions may not be apparent on account of the presence of other neutralizing conditions discussed hereafter.

393. (iv) *Stocks*—The total available supply in any one year includes that year's production as well as the stocks brought forward from the previous year. Storage of jute till the next season is usually undertaken by dealers, balers and mills, but seldom by growers

themselves. It is a matter for regret that no reliable estimates, either official or non-official, of stocks in the jute growing areas are available, nor is it known with certainty the quantities of fibre held by mills from month to month. Most of the leading firms, therefore, maintain their own agents in jute growing districts, who keep them well posted with the position of stocks. Naturally, such information is treated as confidential by these firms. Thus, on account of the non-publication of raw jute stock figures at frequent intervals, the markets are seldom affected by monthly or periodical changes, unless some very important fact, e.g. the exhaustion or shrinkage of stocks, comes to light. On the other hand, stocks of manufactured goods in India—as well as in some of the leading consuming countries, e.g. the United States and the United Kingdom—are published every month; and, other things remaining constant, prices are almost always affected if marked changes take place in the position of hessians and sacking stocks. On the 1st of July 1937, the American stocks of hessians stood at 367 million yards, i.e., about 30 per cent. more than the opening stocks of the previous season. Indian stocks of hessians on the same date were 97 million yards but, on account of unrestricted production by mills they rose to 428 millions on 1-7-38; with the result that, during season 1937-38, the prices of manufactures touched the lowest levels—the index number of 9 porters being 77, i.e. 8 points less than in 1936-37—for which the heavy stocks were greatly, if not mainly, responsible.

394. (v) *Operations in Futures Markets*—Commodity exchanges, in general, are intended to serve as barometers which indicate the cumulative effect of all business conditions existing at any particular times. The futures markets connected with jute and its manufactures—the East India Jute Association Ltd., and the Hessian Exchange Ltd.—have often been criticized for being over-sensitive, but that by itself is no defect. Unless the exchanges are sensitive enough, they may fail to register the hour to hour sentiments of operators. The jute futures generally react, though severely sometimes, to all the abnormal features of the various factors affecting prices; therefore, speculative activities, resulting from such changes, should not be treated as a separate price factor. The futures markets merely absorb the many shocks received by a commodity and indicate the effect in the form of price fluctuations. Unfortunately on frequent occasions these markets have been manipulated by deliberately creating artificial demand, organizing hurried sales on a large scale, spreading false rumours, and similar methods which have nothing to do with genuine production, distribution and consumption of jute and goods. Again, sometimes a particular situation has been exploited with the sole idea of causing violent fluctuations in the rates. Shortage or excess of rains, at any time between

February and July, have been sufficient to introduce some activity in an otherwise featureless market. Unfavourable weather and crop reports from America, the loss of a ship—even in peace time—carrying jute or manufactures, minor events in the international field—such as civil war in a South American State,—in short, any excuse can serve the purpose of creating a stir in the futures markets. During the last quarter of 1938-39, reports received from districts that supplies of fibre were short of expectations, caused a scramble amongst Calcutta buyers with the result that speculators got the upper hand and the price of jute advanced steeply. In March 1939, the average price per *pucca* bale (Firsts) was Rs. 44-8-0, it appreciated to Rs. 52-14-0 in April and 56-5-0 in May. Similarly, from the time the present war broke out—particularly from the end of October 1939—up to January 1940, and to some extent in February and March jute and fabrics prices were almost completely dominated by the activities of the two futures exchange. The extent of fluctuations in the latter have been dealt with in detail in an earlier section. It need only be added that on the 5th of September 1939—quotations on the 4th, i.e. the first working day after the declaration of the war, were highly erratic—the prices of ready jute, 9 porters and Heavy Cees were respectively Rs. 41-8-0 per *pucca* bale (Firsts), Rs. 10-15-0 per 100 yds. and 28-10-0 per 100 bags. In three months, the rates had reached Rs. 112-0-0 for jute and 23-12-0 for 9 porters (both on 4-12-39) and 59-0-0 for heavy Cees (on 5-12-39), which were the highest points touched during the season. Futures rate for jute was higher still—Rs. 125-0-0 per *pucca* bale on the corresponding date. This rise had taken place solely on account of the breaking out of war in Europe and had the support of the various orders for sand-bags, for whatever they were worth. The possible loss of Continental markets and the imposition of export restrictions in this country apparently did not receive serious consideration. The total quantity of jute and goods exported from India in 1939-40 turned out to be less than in the previous year, which proves that such a jump in prices was not justified by actual trade completed with overseas consumers whether in connexion with war or in the course of ordinary business. As a result of the very high levels prevailing during the months under review, mills and foreign buyers withdrew from the market for most of the time, thus rendering rates purely nominal, and when the scare started on 23rd January 1940, the markets collapsed like houses of cards.

395. (vi) *Bulk-handling and use of second-hand bags and substitutes*—This subject has been discussed in another section of the report, but it is necessary to make a short reference to it here even at the risk of repetition. The effects of the changes in demand on this

account may not be noticeable in the daily price fluctuations, as information in this connexion is not received in the markets very frequently. Moreover, even if certain reactions do take place, they might be eclipsed or neutralized by stronger elements, or by factors which are of immediate or local importance. Thus, although the mills and exporters in India must have received information from time to time that American consumption of hessians was declining through the greater use of second hand jute bags and the adoption of substitute packing materials, during the period of world depression—632 and 476 million yards in 1931 and 1932 against 774 millions in 1930—it cannot be shown to what extent the prices of raw and manufactured jute were depressed on account of the fall in demand resulting through the adoption of various economy measures by consumers in the New World. Again, Australia imported 47,836,000 gunny bags in 1934-35, against 70,928,000 and 91,009,000 in 1933-34 and 1932-33: the serious drop was largely due to the increase in the bulk-handling systems for grain throughout the country, but it is not possible to state how far this factor alone was responsible for the reduced purchases of that country. The following figures give an idea of the extent to which the gunny bag trade in Western Australia has suffered through the extension of bulk-handling.

Year	Percentage of crop handled by elevator system*	Export of cornsacks to Freemantle (in bales)†
1932	3.7	59,037
1933	29.7	35,065
1934	37.1	20,405
1935	30.6	19,289
1936	48.8	18,145
1937	67.8	17,883
1938	75.2	17,014

**Vide* Jute Committee's Bulletin No. 9 page 581. Vol. III.

†Indian Jute Mills Association Report, 1932 etc.

Western Australia must be importing practically all her requirements of cornsacks through Freemantle the chief port of that State as it is highly improbable that consumers there buy sacks in large quantities, if at all, from other States. Further, the average imports of sacks through other ports, during the period 1932 to 1938, amounted to only 6.4 per cent. of the total Australian offtake of those bags. Therefore, the share of the smaller ports of West Australia in this trade must obviously be nominal. Thus, it will be seen that bulk-handling, substitute packing, etc., do affect demand and, ultimately, prices for raw fibre and jute goods.

396. (vii) *Other Economic Factors*—In addition to the principal factors examined above, there are many others of economic importance which might be conveniently grouped together under one heading. In this category could be included such matters as working hours and the production agreements of mills, tariff policies of Indian and foreign governments, the general level of agricultural and industrial prices, the labour situation in mills, prices of cotton and other substitutes, exchange rates, gold and silver prices, etc., etc. Some of these factors influence the spot quotations directly while others work through the futures markets, but the line of demarcation is not clear enough to justify an attempt at classification on this principle. As an example may be cited the case of hessians. On August 20, 1935, the price of 9 porter hessian was Rs. 9-9-0. Towards the end of the month, however, it became known that the Government were not prepared to interfere with the working hours of mills. As a result, the bazar took the view that mills would break away from the Working Time Agreement, which caused the bearish element to predominate. Heavy bear selling took place, and by 10th September, the price had dropped to Rs. 7-5-0. Another example is furnished by the labour trouble in Calcutta mills in 1937. The strike had originally started in February, but it was not until later in April that it assumed serious proportions, at one time affecting about 60 per cent. of the looms. Consequently, the prices of jute manufactures rose in the following manner—

	March	April	May
	Rs.	Rs.	Rs.
9 porters	7-12-0	9-8-0	9-6-0
11 porters	9-12-0	11-4-0	11-6-0

Instances like this could be multiplied, but on most occasions the effect of individual factors was not so well marked.

397. (viii) *Political Developments*—Jute markets react considerably to events of political significance. In peace time, a labour strike or a change of ministry in England, assumption of power by revolutionary parties in the more important countries of Europe, outspoken and momentous speeches by international personalities and men of authority, etc., have often produced reactions in the markets—especially futures—particularly if the latter happened to be featureless at the time. War news in particular has powerful influence on prices. The trend of prices since the outbreak of the present war in Europe has been traced in an earlier section. It may also be mentioned that when the Italo-Abyssinian war began early in October 1935, the markets which had been dull for many months became active, and the prices of raw jute and hessians remained firm in October and November. Political

developments in India have similarly been responsible for creating an occasional stir in the markets. Pronouncements of outstanding importance, either by the representatives of British Government or the leaders of the major parties in the country, have also caused fluctuations. Further, the civil disobedience movement in India, resorted to in various connexions since the last war, and the action taken by the authorities to control the situation—involving, as it did, the arrests of prominent persons—have often produced a feeling of uneasiness in the markets.

398. (ix) *Rumours*—Again, rumour and fiction play an important part in the determination of prices both for raw material and finished goods. The futures markets, being more sensitive, are particularly vulnerable on this point. Somebody gratuitously sets the ball rolling, and interested parties set up a whispering campaign. Soon the rumour spreads like wild fire, and either creates boom conditions or starts a panic. The majority of such rumours ultimately prove to be without any substance or foundation but, by the time this is discovered, those responsible have usually secured their profits at the expense of a large number of less well informed small speculators. A few illustrations will show the wide field covered by reports circulated in this manner. In the third week of October 1935, it was rumoured that two mills had intimated that they intended to work unrestricted hours from the following April. As a result, there was at once a downward tendency in the market. Subsequently, it was found that all that the mills had done was to reserve discretion to do as they pleased in the event of no agreement being reached by 31st March. On another occasion the report that a large steamer had gone aground with a cargo of jute and gunnies, gave the bulls the opportunity to force prices up. Later, when it became known that there was every possibility of a large portion of the steamer's cargo being saved, the usual reaction took place. On other occasions, great excitement has prevailed in speculative markets on rumours which altogether failed to materialize.

399. The period, 1st July 1930—when the first measure for cur-tailing production was adopted by mills—to 3rd August 1936—when the mills resumed normal working, unimpeded by any restrictions—was a godsend to rumour mongers: Every time a meeting of the Committee of the Indian Jute Mills Association was called, speculation was rife as to the decision in regard to working hours; and futures transactions invariably followed the trend of such wishful thinking. If, as often happened, the result of the meeting did not fulfil the expectations of speculators, violent reactions were bound to take place. Identical conditions prevailed for months before the Bengal Government issued the Jute Ordinance on 9th September 1938, restricting the

working hours of mills ; and history again repeated itself when the Ordinance was withdrawn on 19th February, 1939, and mills brought an Agreement to control hours of work into operation the next day. And, to surpass all, came the spate of rumours during the season 1939-40. The first opportunity was provided by the introduction of the Supplementary Working Time Agreement on 31st July, 1939. The second important occasion was in connexion with the promulgation of Minimum Prices Ordinances for Jute and Hessian Futures on 21st and 25th August, 1939, respectively. Even before the war broke out, rumours of further sandbag orders had started circulating in the markets. Afterwards, from September, 1939, to January, 1940, the main support of the prevailing high price levels was the continued hope of fresh orders. Fortunately for the persons responsible for spreading these rumours, speculators and the general public were in an extremely credulous mood, for they had seen the placing of two orders for sandbags in the month of September and another for 500 millions in October, and small ones for hessian cloth, canvas, etc., were arriving from time to time. Thus, it was commonly believed that there would be a steady flow of war orders at increasing prices. Even during the last five months of the season, after prices had collapsed, such rumours were put into circulation more or less continuously.

It will be possible to realize from this short account that, apart from the innumerable factors affecting the prices of raw jute and manufactured goods, rumour and fiction alone must make it very difficult for the trader to carry on business, and even the speculators must suffer losses in incalculable circumstances like these.

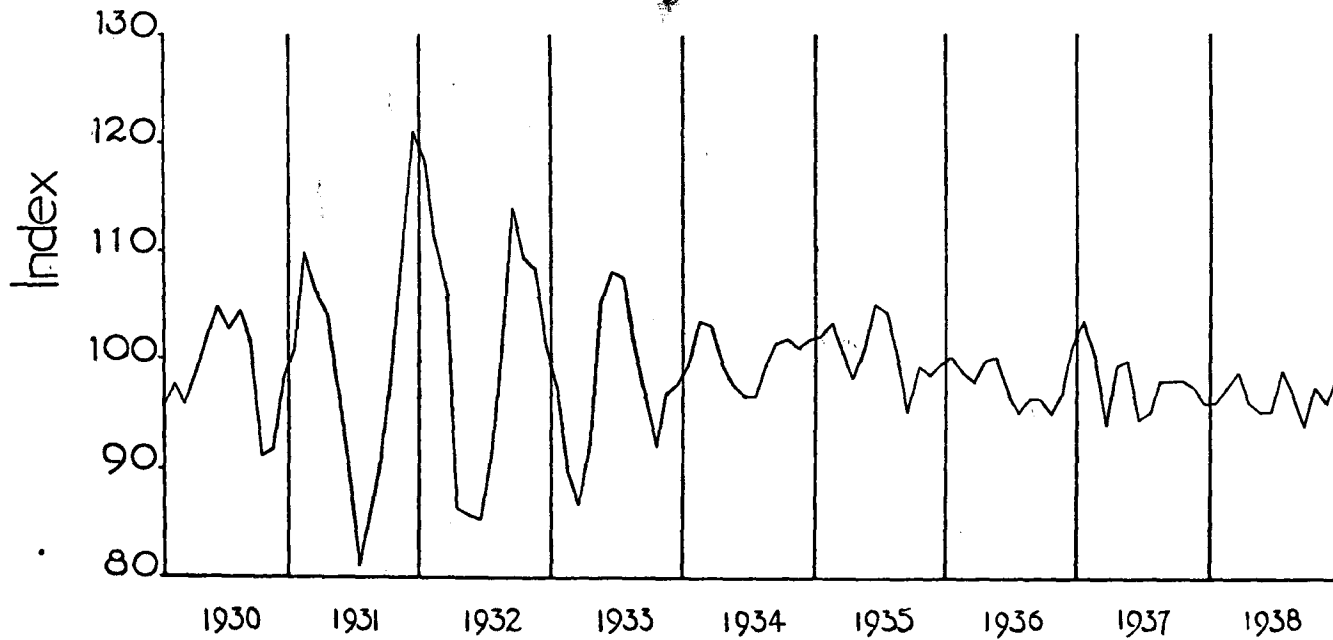
400. (x) *Government Measures*—Lastly, account should be taken of a yet another factor which, though comparatively recent, has great significance. Since 1935, when the Government of Bengal organized a propaganda campaign in favour of the voluntary restriction of jute sowings, the authorities have taken a keen interest in the problems affecting jute. Various measures have been adopted, from time to time, with the ultimate object of maintaining jute prices. In September, 1938, the Government of Bengal promulgated an Ordinance to restrict the working hours of jute mills with a view to adjusting their productive capacity to the known and visible demand for goods. A year later, two Ordinances were issued by the Provincial Government—on 21st and 25th August, 1939—whereby the minimum prices for raw jute and hessian in the respective futures markets were fixed at Rs. 26-0-0 per bale of L. J. A. Firsts and Rs. 6-14-0 per 100 yards of 8 oz./40" A. B. Hessian. This decision provided tangible proof of the determination of the Government to prevent the complete collapse of raw jute prices and thereby protect the most important agricultural

commodity of the province. As a result, steadiness was imparted to the declining market, and shortly afterwards the news of war brought about a complete metamorphosis in the jute situation. A little before these Ordinances were promulgated, the Government of Bengal declared *inter alia* their acceptance of the principle of compulsory regulation of the jute crop, with a view to the adjustment of the supply of the fibre to the demand for it. On account of the continuation of the war in Europe, and the high levels reached by prices, it was feared that a large area might be put under jute in 1940. Consequently, an Ordinance was promulgated, on 10th February, 1940, in an attempt to limit the area under jute to that of 1939. To aid this project a census of plots was undertaken but, owing to the incomplete nature of the official returns, the Ordinance was withdrawn towards the end of the month. This led to unrestricted sowings which, combined with unfavourable war news and shrinkage of demand from overseas markets, caused the prices of raw jute to decline heavily during the months of February to April. In their concern for the welfare of the cultivators, the Government of Bengal promulgated an Ordinance on 18th May, fixing minimum and maximum prices in the jute and hessians futures markets at Rs. 60-0-0 and 90-0-0 per *pucca* bale (Firsts) and Rs. 13-0-0 and 21-0-0 per 100 yds. 9 porter hessian. And, as related, they also purchased 50,000 bales on their own account in an endeavour to support a falling market.

401. On 28th June, it was announced that the Indian Jute Mills Association had agreed to recommend to its members to purchase jute at prices not below certain fixed minima and to sell their manufactures on a like basis. The Committee of the Association did not consider it advisable to make such an arrangement binding on all members, as it was a new venture and had met with some opposition. On account of various circumstances however, mills were disinclined to undertake very heavy purchases, and prices upcountry fell well below those at which the mills had to buy under the arrangement. Early in August, 1940, the Bengal Legislative Assembly passed the Jute Regulation Bill with minor amendments; and, on September 26, the Government announced that the acreage under jute in 1941 would be restricted to one-third of that of the previous year. Nevertheless, the prices of raw jute declined very heavily during the first four months of the new season. And, in November, the Indian Jute Mills Association approached the provincial authorities suggesting that the prices fixed for loose jute should be revised, and that in view of the generally low quality of the crop a new mark should be introduced. As there was a serious difference of opinion between the two parties to the agreement of June last, the matter was referred to the Government of India which after considera-

Seasonal Variation of Prices

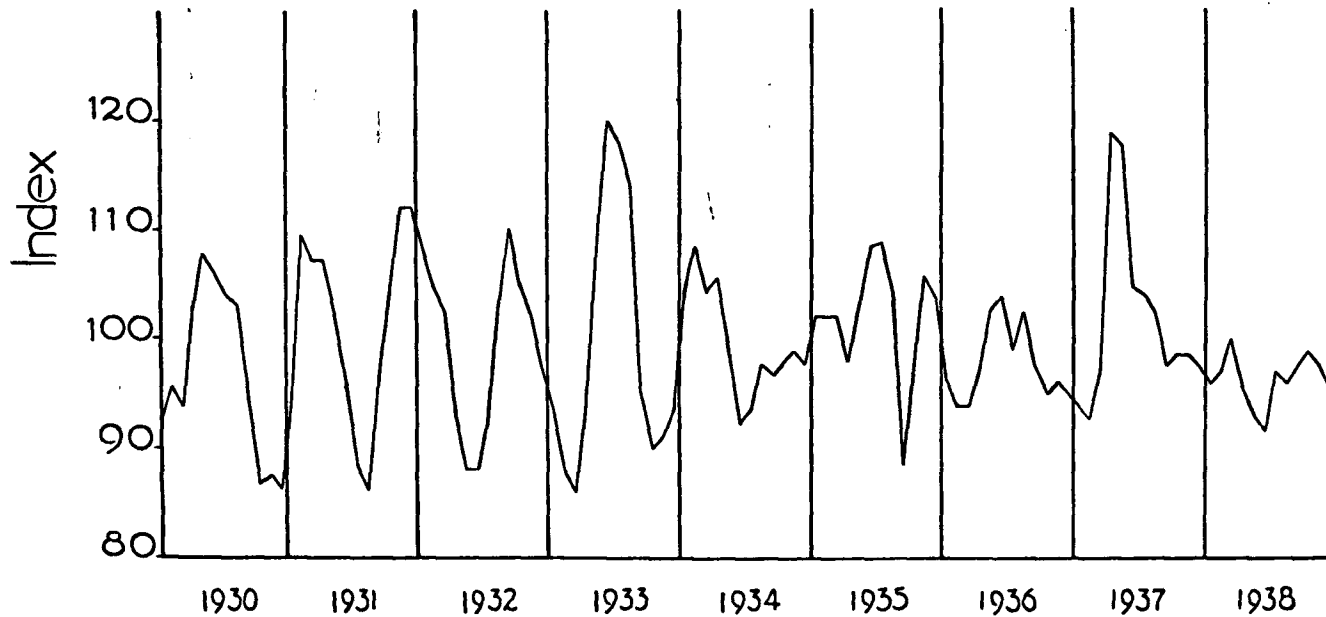
Heavy Cees



GRAPH VI

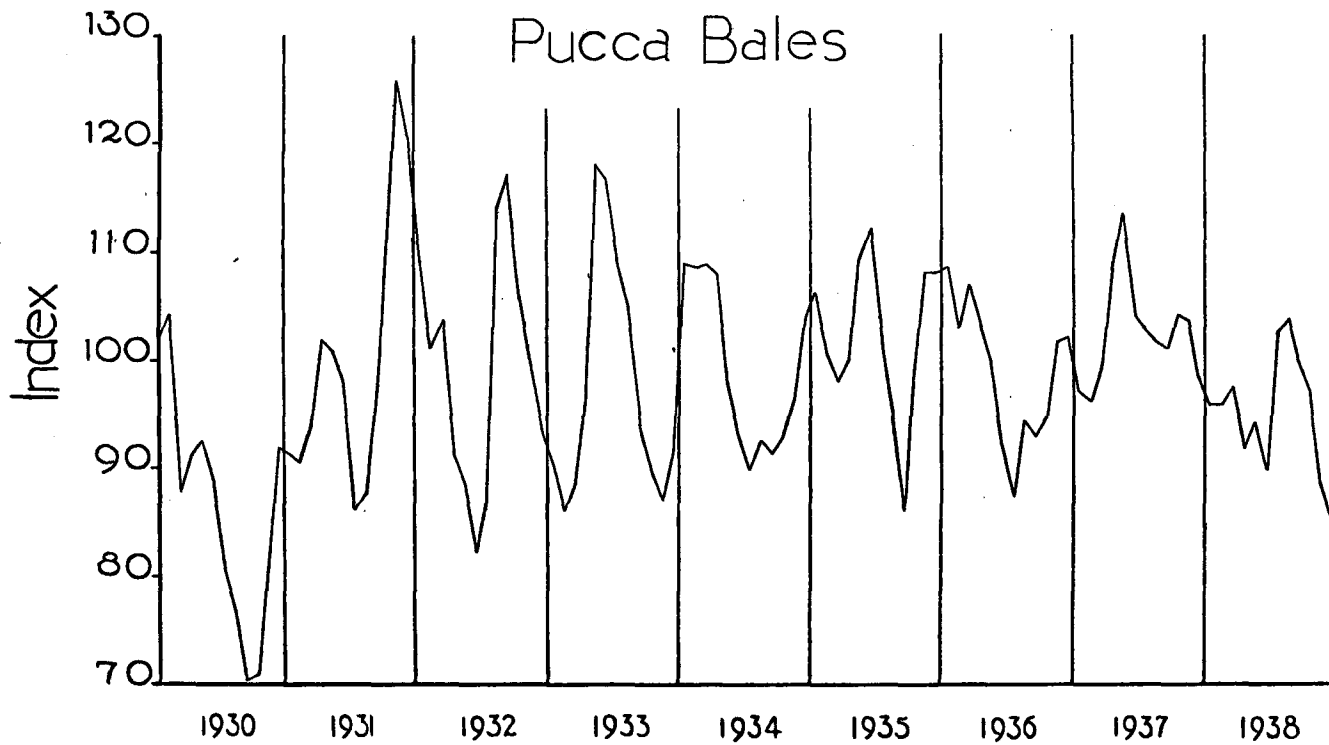
Seasonal Variation of Prices

Hessian

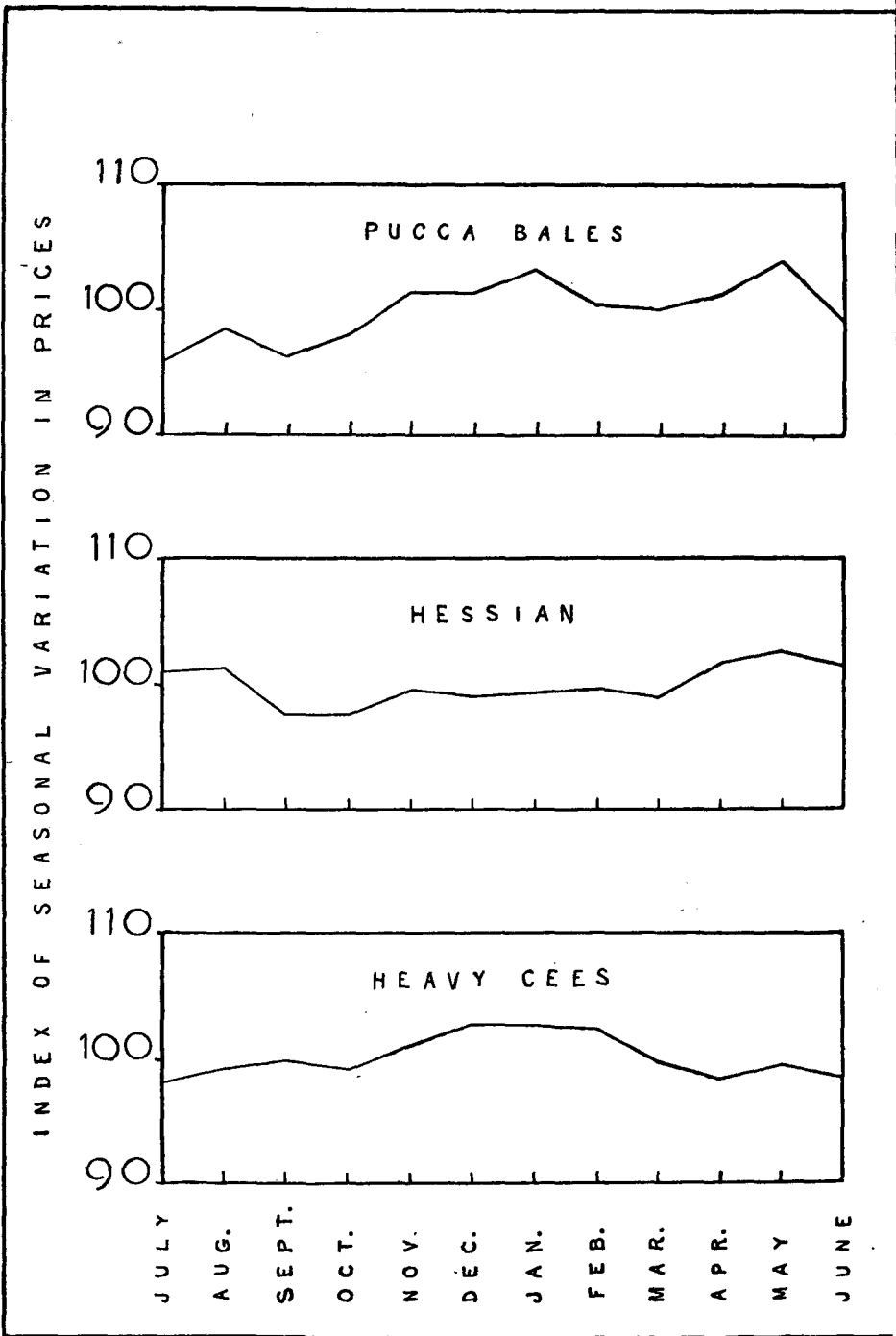


Seasonal Variation of Prices

Pucca Bales



GRAPH IV



GRAPH III

tion convened the conference already mentioned, in the first week of December. One of the results achieved was that the prices were reduced by a few annas, but the question of the introduction of a new mark to cover low grade fibre was dropped. Further, it was agreed that mills would purchase certain specific quantities by fixed dates. On the results of the conference being made public raw jute became firm, and fabrics also improved.

E. SEASONAL VARIATION

402. In any study of the variation of prices the periodic seasonal fluctuations are generally the most important in their effects upon business in the course of a year. In particular, the general movement of prices over a short period such as one complete year is best explained by factors which are essentially seasonal in character. It is, therefore, important to discover if the prices of jute and manufactures rise and fall at more or less regular intervals during a year.

403. The investigation into the seasonal variation of jute prices has been confined to the prices of L. J. A. First marks in baled jute, 9 porter hessian of A. B. standard and Heavy Cees, which are regularly used in quoting basic qualities. Seasonal fluctuations have been obtained from the monthly prices over a period of ten years, 1929-30 to 1938-39. (Owing to the abnormal conditions prevailing since the outbreak of the war, season 1939-40 has been excluded and 1929-30 brought in to complete the decade.) The following method has been adopted for the calculation of the indices of seasonal variation. In the first place, any long period trend that may exist in the movement of prices has been determined by the method of moving averages. The actual monthly prices have then been expressed as percentages of the corresponding trend values as given by the moving averages. These ratios give the percentage deviations of the prices from the trend values and may be considered as fluctuations caused by seasonal factors. Finally, the index of seasonal variation for any particular month has been obtained by taking the average value of all the ratios for that month.

404. The average monthly variations, expressed as seasonal indices, are given in Table XXXIX. The seasonal curves corresponding to these indices are shown in graph III. Although the seasonal curves rise and fall in different times of the year, it should be investigated whether they truly represent the seasonal fluctuations in individual years. The latter are shown in graphs IV, V & VI, and a comparison of these curves with those in III, brings out the fact that the actual monthly fluctuations

in individual years rarely correspond to the pattern given by the seasonal indices. The seasonal indices have also been subjected to statistical tests which prove that the average monthly fluctuations of prices do not differ significantly from one another. The absence of any regular seasonal fluctuation in prices during the decade 1929-30 to 1938-39 leads to the conclusion that during the period under consideration the seasonal factors did not in general play any important role in the movement of jute prices.

TABLE XXXIX
Seasonal Indices of Prices of Raw Jute & Jute Manufactures.

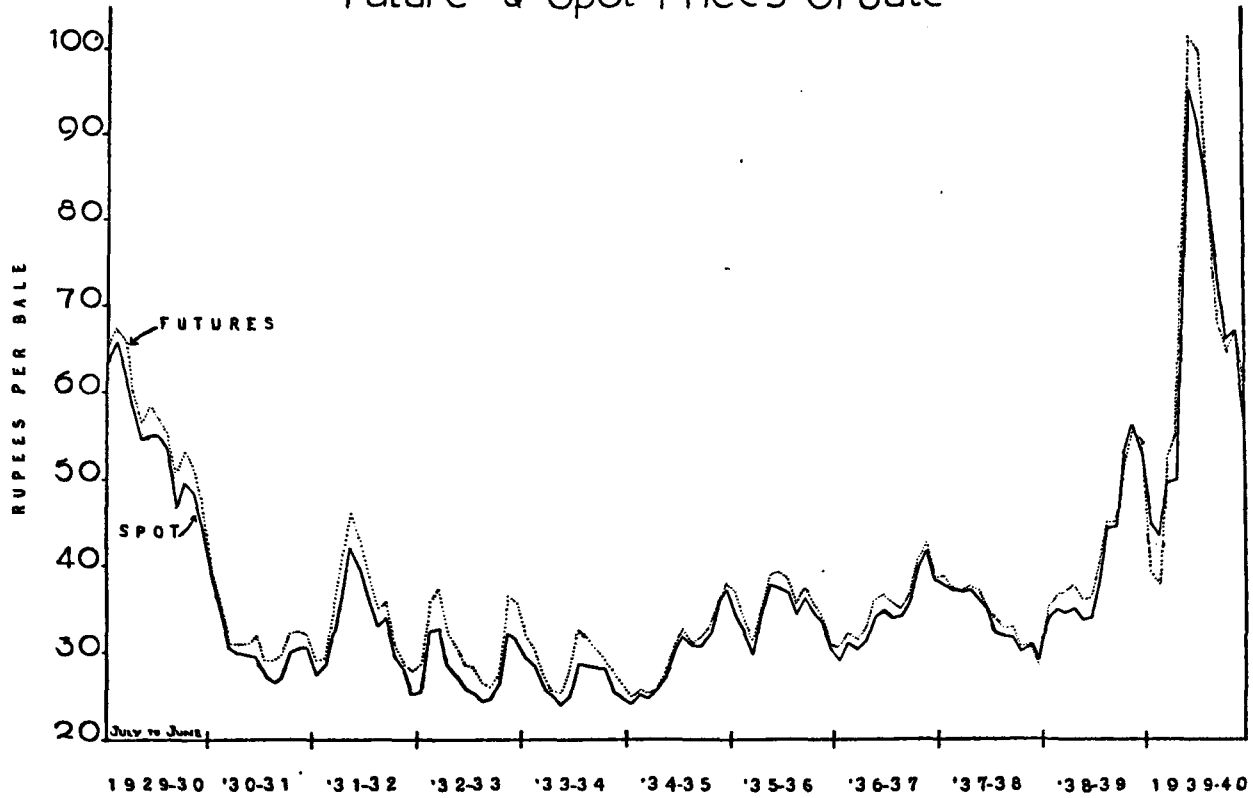
Month	Pucca Bale (First)	9 Porter Hessian	Heavy Cees
July	96.0	101.1	97.9
August	98.6	101.6	99.2
September	96.5	97.7	99.7
October	98.0	97.6	99.1
November	101.2	99.6	100.7
December	101.3	98.2	102.7
January	103.2	98.5	102.6
February	100.5	99.7	102.4
March	100.2	99.2	99.8
April	101.2	101.9	98.3
May	103.9	103.0	99.3
June	99.4	101.9	98.3

F. FUTURES PRICES

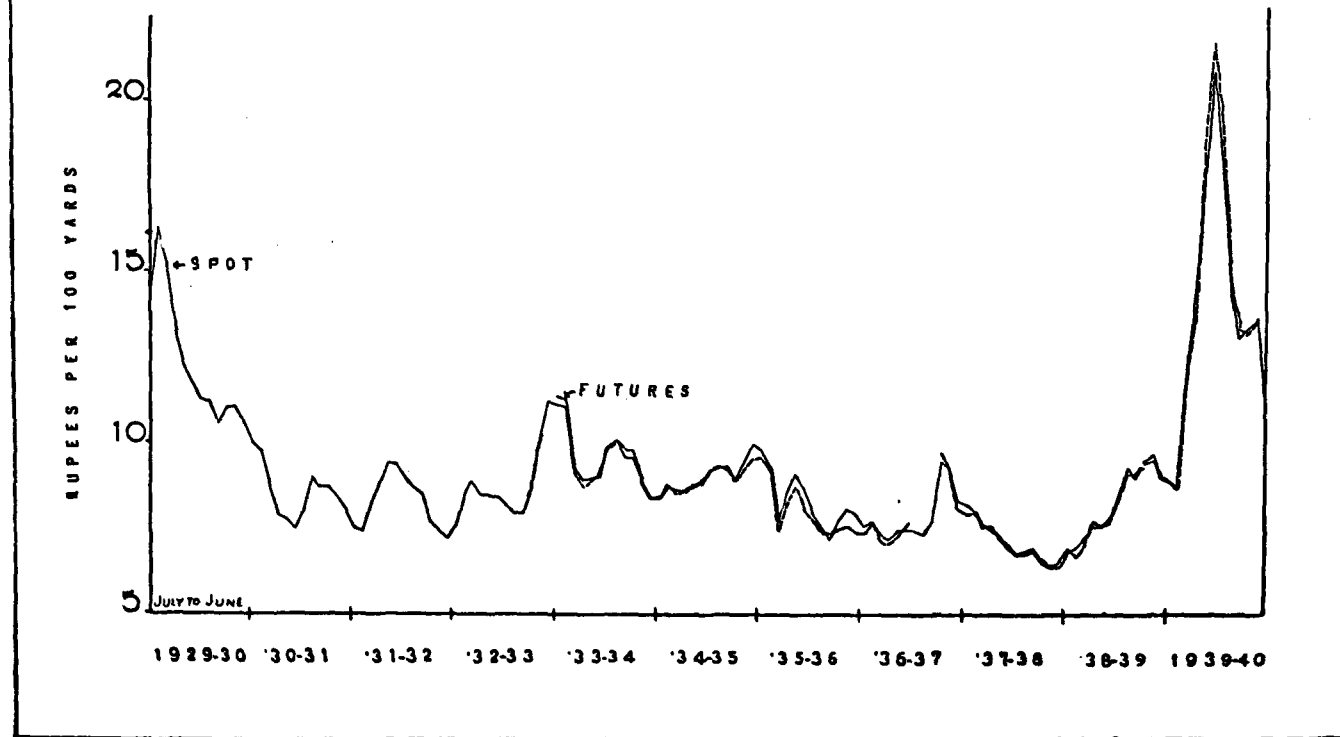
405. Before ending the present study of the wholesale prices of raw jute and fabrics, it would be interesting to follow the fluctuations in the futures markets. The organisations that run the Exchanges for raw jute and finished goods are known as (i) the East India Jute Association Ltd., and (ii) the Calcutta Hessian Exchange Ltd., respectively. The aims and objects of the former, as well as the system of transacting business under its auspices, were dealt with in considerable detail in the First Marketing Report,¹ while a historical résumé and an account of the working of the latter have been given earlier in this report.² Graphs VII and VIII, facing this page, show the movements

1. See Ch. III., Section D 4(b).
2. See Ch. II., Section B 5, *supra*.

Future & Spot Prices of Jute



Future & Spot Prices of Hessian



GRAPH VIII

of spot and futures prices, both of raw material and hessian. In this connexion a few interesting points relating to the prices of spot jute and futures contracts may be noted.

406. First, it will be observed that, generally speaking, the spot and futures curves move in sympathy with each other. The instances when the discrepancies between the two tended to increase or vanish, are few and far between (this subject will be dealt with in the next paragraph). It might, however, appear at first sight, that the prices curves relating to hessian move much closer to each other than in the case of *pucca* bales. But, on closer examination, this impression would prove to be wrong. In order to arrive at a definite conclusion, the 'average spread' between spot and futures prices had been calculated for 4 years, viz. 1935-36 to 1938-39, the periods 1931-32 to 1934-35 and 1939-40 being omitted as they represented abnormal tendencies. ('Average Spread' is the ordinary arithmetic mean of the sum of absolute differences—obtained by ignoring signs—between 'Spot' and 'Futures' prices over the period under consideration.) The average spread in the case of *pucca* bales works out Rs. 1-4-0 per bale, while in the case of hessian it is 2½ as. per 100 yds. Broadly speaking, however, a bale of jute would produce 800 yards of 9 porter hessian, so that the total quantity of hessian manufactured from one bale of jute would give rise to an average spread of Rs. 1-4-0. In other words, the average price spread calculated on the basis of weight is the same for *pucca* bales and 9 porter hessian.

407. The second point deserving of attention in this study is the fact that occasionally the differences between spot and futures prices are accentuated and curves fall out of alignment. While it is not possible to dogmatize on the causes responsible for such variances, it may be stated that they were most prominent in baled jute prices during the seasons 1930-31 to 1933-34.¹ At that time, there was considerable speculative buying of jute, due to a number of factors. Firstly, the period under notice experienced an unparalleled trade depression all over the world. Jute was also affected: stocks of both raw fibre and manufactured goods increased enormously, while the exports of jute and its consumption by mills in India declined seriously. This naturally resulted in a heavy drop in the level of spot prices. On the whole, futures prices also moved in the same direction, but the low quotations seemed to attract investors and speculators. Because of the general economic depression, people did not expect good returns

1. As the futures prices of hessian are not available for years prior to 1933, it cannot be said whether a similar tendency was present in the prices of hessian as well.

from their usual business investments. Having surplus funds, they turned to jute and, not being in a position to undertake the responsibilities involved in trading in ready jute, ultimately entered the futures market. But, the fact that, during the period 1931-1934, the futures prices exceeded spot prices by an amount very much more than the 'cost of carrying' goods in the futures, indicates the unbalanced character of the futures market. It appears that the buyers in that market were not genuine merchants, working for trading profits, but speculators, actuated by gambling motives.

408. The continuance of this excessive spread—i.e. excessive in comparison with the costs of carrying jute to a future date in the Futures market—seems to indicate that in its operation, no less than in its structure, the futures market in these years was essentially a seller's market. Owing to the great depression, *pucca* balers, who were incidentally the sellers in the futures market, may have found it increasingly difficult to maintain their exports in the face of a shrinking demand from abroad. Thus, they probably resorted to the practice of selling below packing costs in order to maintain their exports. But, they would have had no chance of recouping the losses by selling at a higher rate in the ready market. If they wanted to sell their cut jute to the mills, they had to reckon with the competition of loose jute dealers. Hence, they had no other alternative but to force up the price of sale contracts in the futures market. They were in a privileged position, in as much as it was only they who could tender *pucca* bales of the requisite specification against future contracts. If the market had been properly constituted, the buyers would have refused to buy futures contracts at rates which were at an excessive premium over spot rates ; instead, they would have preferred to buy jute in the spot market and to carry it forward to suit their requirements. The buyers in the futures market did not do this, for most of them were not genuine merchants, but speculative buyers interested primarily in dealing in differences.

409. The occurrence of certain events in the course of the economic depression provided the occasions for hectic speculation in the jute market—for example, the depreciation of foreign exchanges, the departure of England from the gold standard in 1931 and the similar step taken by the United States in 1933 (together with the placing of an embargo on the export of gold from that country), etc. As a result, strong feeling was created among mills, balers and a section of jute merchants against *phatka* operations. Memorials and countermemorials were submitted to the Governor of Bengal ; and, ultimately, with a view to overcoming criticism, the East India Jute Association agreed

to alter its bye-laws in many important respects. These changes included¹—

1. Limitation of transaction by any one broker to 20,000 bales at a time ;
2. All contracts to be in writing ;
3. No contracts for the delivery month to be entered into after the first of that month ;
4. Rates for periodical payments of margins not to be higher than the ready plus storage charge at four annas per bale per month ; etc., etc.

It is generally believed that some improvement was effected through the introduction of these reforms.

410. Another point may be mentioned in this connexion. During the whole period under review, viz. 1929-30 to 1939-40, the futures prices of raw jute have almost always been higher than the spot rates. Sometimes, particularly when transactions for a new settlement commence, the former exceed the latter by Rs. 3 to 4 per bale ; and, as the delivery month approached, the difference decreases, so that at the time of settlement it varies from Rs. 1-8-0 to 2-0-0 per bale. On the other hand, in the case of hessians, the futures prices has generally remained below the spot quotations.

In theory, there appears to be no justification for futures to rule consistently above or below spot prices. Given the relation between the anticipated supply and demand for a commodity in the future and its actual supply and demand in the present, there are two sets of mutually conflicting influences that seem to govern the spread between spot and futures rates, viz.,

- (i) the buyers' preference for spot commodities,
- (ii) the cost of carrying goods in the future.

The advantage of a spot transaction to a buyer is that he has the complete choice of the commodity that he seeks to buy. He can select the particular grade and lot of the commodity that he wants to buy. But, in the case of a futures transaction, he may have to receive from the seller any one of the several specified grades that are tenderable against his futures contract, i.e. he cannot exercise the spot buyer's right to demand a particular or specified parcel of the commodity. To the extent that his right is thus limited, his demand schedule for the commodity to be delivered in the future as against that to be delivered in the present is lowered.

411. On the other side of the scale is the factor known as 'carrying costs'. This group includes several items such as storage,

1. Have been modified since then.

TABLE XL
Jute Futures Quotations¹
Pucca Bales (Firsts)

Season	July	August	September	October	November	December	January	February	March	April	May	June
1929-30	65 0	67 5	65 15	60 5	56 7	58 6	56 13	55 6	50 11	53 2	51 2	46 11
1930-31	39 8	35 8	30 15	31 2	30 15	31 14	29 3	28 15	29 11	32 6	32 7	32 1
1931-32	29 3	29 5	35 2	41 2	46 3	42 14	38 13	34 15	35 14	30 15	28 14	27 14
1932-33	28 13	36 1	37 6	32 8	30 12	28 11	28 5	26 8	26 1	27 13	36 9	35 10
1933-34	31 15	30 8	27 7	25 9	25 6	28 2	32 8	31 8	30 7	29 5	27 9	26 4
1934-35	24 14	25 10	25 4	25 8	27 11	30 6	32 10	31 0	31 12	33 2	35 12	38 2
1935-36	37 2	34 0	31 6	35 6	39 0	39 3	38 8	35 11	37 6	35 8	34 2	30 14
1936-37	30 10	32 3	31 8	33 0	36 1	36 12	35 14	35 3	36 12	40 10	42 14	38 12
1937-38	38 14	37 9	37 5	37 14	37 6	35 0	33 15	32 15	33 0	30 14	31 2	28 9
1938-39	35 3	36 12	36 15	38 0	36 4	36 5	40 0	45 0	45 3	51 12	55 7	54 9
1939-40	39 8	38 2	52 6	55 2	77 12	101 7	99 15	83 10	68 8	64 12	66 8	61 6

230

1. The quotations are averages of the weekly opening rates of 'Firsts' mark baled jute, vide Annual Reports of the East India Jute Association Ltd., Calcutta.

Note—Quotations for July to September are for September delivery, from October to December for December delivery, January to March for March delivery and April to June for June delivery.

TABLE XLI
Hessian Futures Quotations*
(9 Porters)

Year	July	August	September	October	November	December	January	February	March	April	May	June
1933-34†	11 7 0	11 5 0	9 3 0	8 12 0	8 15 0	9 3 0	9 14 0	10 1 0	9 14 0	9 13 0	8 14 0	8 7 0
1934-35	8 7 0	8 13 0	8 9 0	8 10 0	8 12 0	8 15 0	9 4 0	9 6 0	9 4 0	8 15 0	9 5 0	9 9 0
1935-36	9 9 0	9 4 0	7 8 0	8 3 0	8 13 0	8 2 0	7 13 0	7 7 0	7 7 0	7 9 0	7 10 0	7 8 0
1936-37	7 7 0	7 10 0	7 3 0	7 1 0	7 6 0	7 9 0	‡	‡	‡	9 14 0	9 6 0	8 3 0
1937-38	8 0 0	8 1 0	7 11 0	7 9 0	7 5 0	7 1 0	6 13 0	6 14 0	7 0 0	6 10 0	6 8 0	6 9 0
1938-39	7 0 0	6 12 0	7 3 0	7 12 0	7 11 0	7 14 0	8 7 0	9 3 0	9 3 0	9 9 0	9 11 0	9 2 0
1939-40	9 0 0	8 12 0	12 7 0	14 2 0	18 10 0	21 13 0	19 3 0	14 11 0	13 7 0	13 5 0	13 14 0	§

231

*Quotations for September to November are for November delivery, from December to February for February delivery, March to May for May delivery and June to August for August delivery.

†Prices for years prior to 1933-34 are not available as they were not maintained by the Exchange.

‡Prices not available owing to destruction of records.

§For 9 months from June to February 1941, the Hessian Exchange was closed owing to 'Futures' quotation falling below the minimum of Rs. 13/-, which was fixed by the Government of Bengal in an Ordinance issued on the 18th of May 1940.

The monthly average prices have been calculated from the weekly opening rates of 9 porters hessian (40" 8 oz.) as recorded by the Calcutta Hessian Exchange Ltd.,

insurance, interest, depreciation and other miscellaneous costs. Against a futures contract a seller must carry his goods in the future and so incur these costs. It is no answer to this argument to say that a seller could purchase his forward requirements ahead from other dealers under contract to deliver such goods at times much nearer to the delivery dates. In that case, the 'carrying costs' are merely shifted backwards to another category of sellers. The 'carrying costs' therefore operate in a different direction from the other influence that was discussed in the above paragraph. Their effect is to raise the seller's supply schedule for the commodity in the future. The actual direction and size of the spread between spot and futures prices at any particular time, will thus depend on the result of these two mutually conflicting influences. As the cost of carrying is almost nil in any near month, the spot price in a properly balanced futures market is likely to exceed the futures prices in the near month, by the amount of the buyer's preference for spot goods. This premium on spot prices will however steadily decrease, till in the more distant months the position is reversed and futures prices are quoted at a premium over spot.

CHAPTER VIII

SUMMARY

(Figures in parenthesis refer to paragraphs in the Main Report)

Chapter I—Historical Background of the Trade.

1. Jute and its cloth are mentioned in ancient Sanskrit writings, but they were not known in other parts of the world until late in the eighteenth century, when the East India Company interested itself in its trade. This gave an impetus to the hand-loom industry which was considered during 1850-60 as the principal industry of Bengal: 1,013,277 pieces of gunnies and gunny bags were exported in 1828-29, and 9,035,713 pieces—valued at Rs. 21,59,782—in 1850-51. But, with the introduction and development of power driven machinery in Dundee and India during the middle of nineteenth century, the indigenous industry gradually lost its importance and the export of hand-made goods ceased after 1885. At present, it exists as a cottage industry, catering primarily for the domestic needs of a section of the rural population of Bengal. (1,2)

2. The goods manufactured from jute in the early days were (a) cordage, (b) gunny cloth and bags, and (c) paper. Cordage included all kinds of yarn and twist, while gunny cloth was made in three different qualities, namely, (i) a thick and closely woven cloth similar to canvas, (ii) a finely woven fabric resembling hessian, and (iii) a coarse and loosely woven fabric which were used for packing agricultural produce in general. Paper was made from jute and old jute goods, and towards the latter part of the eighteenth century its manufacture flourished so much in Bengal that some quantities were exported to other provinces of India. Gradually, however, foreign paper displaced the indigenous paper. Although the hand-loom jute industry now produces, in the main, string and rope only, some districts prepare jute cloth as well for domestic purposes. In all places, spinning, weaving and rope-making are confined to villages and are undertaken by the people as a spare time occupation. (3-8)

3. The common method of spinning in villages is by means of *takkus*, the hand spinning wheels being more expensive. No special treatment is given to the fibre, except moistening the root ends and beating them with mallets with a view to softening before removing the bark. Modern hand-looms, fitted with fly-shuttles, are used in

Bogra district alone and are capable of weaving twill, herringbone and check patterns, whereas in other places ordinary country loom capable of weaving 'plain weave' only is still used. (9)

4. In the course of the Marketing Enquiry, it was reported at Dinajpur that the manufactured fabric fetched approximately Rs. 2 per maund more than the price of raw jute and that the wages of individual workers amounted to Re. 0-2-9 per day. In Bogra, the average daily wage was Re. 0-2-8. However, in the jute spinning and weaving institutions there, the average wage of a worker was Rs. 10 per month, each worker putting in 8 to 9 hours daily, working on piece wage system. (10)

5. The fabric commonly manufactured in Dinajpur, Jalpaiguri and Rangpur is known as 'Bengal *bardana*', i.e. hessian strips, which find a market in Bombay, Central Provinces, Berar and Hyderabad (Deccan), and are used for packing raw cotton. Although the demand has declined considerably during recent years, the average yearly export of this fabric is about 20,000 mds., of which about half is said to be taken by Bombay Presidency alone. In the Bogra institutions, however, hessian cloth, *satranji*, *asni*, stair runners, *newar* (webbing) and various types of bags are manufactured. Hessian strips are sold in *hats*, being bought by *paikars* and *beparis* who sell them again to merchants having agencies at Ruhea, Setabganj and Sibganj in Dinajpur and at Domar in Rangpur. Hessians produced by the Bogra institutions are sold to the All-India Spinners' Association, while the other manufactures are sold locally. The total annual consumption of raw jute by all these industries amounts to approximately 50,000 maunds. (11-14)

6. Although machinery was introduced in Dundee in 1832, substantial success was not attained in the jute manufacturing industry until 1838 when the Dutch Government placed orders for jute bags; since then, jute industry made a steady progress at the cost of flax. At present, there are about 8,500 looms in Dundee which is still foremost in the development of the jute textile technique, although both India and Germany have greater loom strength. (15, 16)

7. In India, the first mechanically driven jute spinning mill was established at Rishra—situated 13 miles from Calcutta—in 1855, but power looms did not start operating before 1859 when there was a total of 192 looms (the present loom strength is 68,416 excluding special looms). (17)

8. The United States of America erected its first jute mill at Ludlow, Massachusetts, in 1848, and the spinning machinery was installed two years later. After 1865, several jute bag manufacturing

mills were started in the cotton growing areas where bags were used for carrying cotton from fields to gins and presses. In 1919 there were 26 jute manufacturing firms but, in course of the following 20 years, the number dropped to 20 and according to later estimates the total loomage is 2,750. (18)

9. (a) In France, the first mill was established at Dunkirk in 1857, but more were constructed later in Northern France where trained labourers were available. And, in the latter part of the nineteenth century, a few mills were erected in the neighbourhood of Marseilles. In 1909 the total number of looms in France was 5,800 and, according to later estimates this had increased to about 7,000. (19)

(b) In Germany, the first jute spinning mills were erected in 1861, but power driven looms were not introduced until 1870. The loom strength in 1928 was 8,698 but subsequently it was estimated at 9,600. (20)

(c) The jute manufacturing industry in Belgium was established in 1865, but until the close of the nineteenth century the progress remained slow. The number of looms in 1930 was 2,000, but later it increased to 3,000. (21)

(d) The first jute mill was built in Austria-Hungary in 1870, but the industry could not grow until 1882 owing to a heavy tax on all fibre and fabrics. The conditions improved later, and in 1910 there were 2,700 looms in Austria and 1,000 in Hungary. The latest reports place the loomage strength in Austria at 1,100 only. (22)

(e) Prior to 1885, there was only one mill in Russia but, by 1909, 16 jute mills were established with about 3,000 looms. The mills practically ceased to work during the Great War, but some recovery took place later and about 1,000 looms were operating in 1930: since then the position has remained almost unchanged. (23)

(f) The jute manufacturing industry had its beginning in Italy in 1885 and made steady progress ever since. The post-war development brought the total to 4,500 in 1930 and later the figure increased to 5,000. (24)

(g) Poland entered the field early in the present century, and in 1914 there were about 1,040 looms: according to the latest information, however, the number has increased to about 1,600. (25)

(h) Little information is available about the early stages of the industry in Czechoslovakia, but in 1930 there were 10 jute mills with 1,900 looms which afterwards increased to 2,000. (26)

(i) Jute was introduced in South America in 1885 for manufacturing jute-soled shoes. Brazil, however, was the first country to

take up the manufacture of coffee bags and now has about 4,500 looms. There are about 800 to 900 looms in Argentine and Uruguay and 500 to 600 in Chile and Ecuador. Lately, the total loomage in South America was estimated at 6,000. (27)

(j) The early history of the industry in the Far East is not available, but according to latest information there are 9 jute mills in Japan, Formosa and Manchukoa, having about 1,500 looms. In Shanghai there are 2 small jute mills with about 400 looms. (28)

(k) The jute industry in Spain is mainly located in the north, and in 1925 there were 20 miles with a total of 687 looms. By 1935, the loomage had increased to over 800, but the present strength is not known. (29)

(l) The manufacture of jute goods in the British Dominions is not of an extensive nature. In Canada, there are only about 200 jute looms. A few spinning mills are established in Australia, but South Africa has no jute manufacturing plant. (30)

(m) Norway has one small jute factory and Sweden three. In 1930, the total loomage of these two Scandinavian countries was about 400. The loomage is believed to have increased since then. (31)

(n) According to the estimates of the Calcutta jute trade circles, Yugoslavia, Esthonia, Bulgaria and Finland together have about 800 looms, of which 400 are said to be in Yugoslavia. (32)

(o) The total number of jute looms in the various countries of the world is estimated at 1,20,071, of which 68,416 (excluding special looms)—or, over 57.0 per cent. of the world loomage—are distributed in India. (33)

10. In India, the first power driven jute mill was established in 1850 at Barnagore. By 1885, however, the number of mills and looms increased to 11 and 6,700 respectively, in 1909 to 38 and 30,685 and in 1914 to 41 and 38,554, of which 32,603 were hessian looms. During the Great War, 6 more mills were erected, bringing the total loomage to about 40,554. The post-war period gave a fillip to the industry, and by 1927 the loom strength reached 50,354; and, between 1930 and 1935, about 4,000 looms were added. There are 4 mills each in Madras and Bihar, having 1,025 and 1,144 looms respectively; and 3 mills, with a total loomage of 870, are established in the United Provinces; while the Central Provinces have only one mill with 150 looms. Thus, out of a total loom strength of 68,416 (excluding special looms) in India, 3,189 looms are distributed in Madras, Bihar, United Provinces and Central Provinces, and the rest in the neighbourhood of Calcutta. (34.35)

11. The Calcutta Jute mills area extends about 35 miles north and 22 miles south of the town on either bank of the river Hooghly. All the 101 mills, having a total loomage of 65,227 (excluding special looms), are located within this area. (36,37)

12. The mill at Barnagore first started manufacturing hessian of widths between 26½" to 38" in 1870 ; but, later, the mills in India began manufacturing hessian of other widths also. In 1890, the hessian looms were approximately 24 per cent. of the total, but they increased gradually and at present amount to about 63 per cent. (38-40)

13. Although 37 different sizes of hessian, ranging from 41½" to 86½", and 16 different sizes of sacking looms are registered with the Indian Jute Mills Association, looms of greater widths also are to be found. However, 75 and 72 per cent. of the hessian and sacking looms respectively are between 45" and 52½", and 36" and 37½". (40-42)

14. In addition to sacking and hessian looms, special looms are also used in some mills for manufacturing webbing, belts, etc., with a reed space not exceeding 12". There are over 600 such looms in Calcutta mills, as well as 300 cotton bagging looms and a few for the manufacture of linoleum, jute rug, carpets and upholstery fabrics. In all, there are over 1,600 special looms in India, and the Eastern Manufactures, Ludlow, Agarpara and Birla mills are prominent in this line of manufacture. (43-46)

Chapter II—Organisation of the Industry in India.

15. Managing agency system of control is more common in jute mills of India. Although some mills may have been erected by individuals, they have ultimately been brought under the control of managing agents most of whom have other interests also, e.g. in tea, coal, etc. Some mills have undergone changes of management from time to time. (47)

16. Prior to 1884, there was great competition among jute manufacturers, and sporadic attempts were made to fix selling prices and regulate production, which met with little success. Consequently, with a view to improving the industry, an association called the 'Indian Jute Manufacturers Association' was constituted in July 1884. (48)

17. The objects of the Association, in brief, were to do everything in order to promote and protect the interests of those engaged in the industry. It was at the instance of this Association that voluntary short time working was first introduced. The name of the association was, however, changed to Indian Jute Mills Association in July 1902. The membership of this body gradually increased, being 73 in 1940.

Owing to the changes in trading conditions caused by the Great War (1914-1918) and due to the impending competition by other countries, it was considered necessary to modify some of the aims and objects of the Association. The Association was first managed by a Committee consisting of the Chairman and 4 members elected annually at a general meeting but, since 1920, the Committee has been enlarged by 2 more members. In 1938, two classes of members, namely 'A' and 'B', were created. The former enjoyed full membership rights, while the latter had restricted privileges only. (49-52)

18. The Jute Mills Association takes considerable interest in legislative and other matters, and returns two members to the Bengal Legislative Assembly. Besides, its members often serve on Municipal Boards, District Boards, Committees of the Bengal Chamber of Commerce, Railway Rates Advisory Committee and various other committees and commissions. The Association has recently organized research laboratories with a view to finding new uses for jute. It has also been instrumental in establishing well equipped dispensaries, maternity centres, crèches, schools and recreation grounds in the jute mill areas and has set up new departments for the removal of labourers' grievances. (53-56)

19. Towards the latter part of the nineteenth century, shipper-buyers of gunnies experienced considerable difficulties as complaints about excessive moisture, indifferent quality and irregular weight were received from overseas consumers, but mills hardly paid any attention to the matter. As a result, many consumers ceased connection with certain mills. A Committee of gunny bag buyers was therefore formed in order to tackle the situation and the Indian Jute Manufacturers Association was addressed accordingly, but without any result. Consequently, the Jute Fabric Shippers Association was formed in January 1899 with the intention of exercising a greater influence on mills. The objects of this body were to arbitrate on matters of dispute and to look after the interests of its members. Membership was open to all persons and firms directly connected with the export of jute fabrics from Calcutta. (57-59)

20. Three things namely (i) measurement, (ii) weight, and (iii) liability for late shipments of bales were the main points of controversy. The arbitration was slow and unsatisfactory as mills in many cases did not agree in respect of quality, the Association being unable to create confidence amongst gunny exporters during the first few years. And, during the Great War (1914-1918), gunny shippers had a difficult time owing to the Allied Governments placing direct order with mills. Government order prohibiting exports of hessian cloth

to neutral countries made the situation still worse. However, new forms of contracts were introduced for trading in United Kingdom and Australia and, by 1920, the membership of the Association increased to 45. Between 1920 and 1930, there was hardly any outstanding change or improvement except that a few Indian shippers also became members. The disputes with regard to weight and measurement of bales were settled in 1936 and there were only 36 members in 1938-39, who handled over 90 per cent. of the gunny export. (60-63)

21. The Gunny Trades Association was established in 1925 with a view to regularising the business in manufactured goods and to arbitrate in matters of dispute relating to this trade. Since 1938, two classes of members are admitted, namely 'A' and 'B'. The former have the right of voting whereas the latter have none. According to the latest information, there are 109 and 21 'A' and 'B' class members respectively. (64)

22. It was not until 1875, when trade had greatly expanded, that dealers realised the necessity of taking assistance from brokers. Brokerage was then paid at one per cent., but was reduced to half by associated mills in 1892 and, later, increased to $\frac{3}{4}$ per cent. on brokers' assurance of future good behaviour. In 1893, the brokers formed an association called the 'Gunny Fabric Brokers Association' which secured affiliation to the Bengal Chamber of Commerce in 1894 with 35 members. The Indian Jute Mills Association maintained close relationship with the Brokers Association and all mills were required to sell their manufactures through these brokers. The membership of the Brokers Association fluctuated with the prosperity or otherwise of the trade. In 1930, however, the membership reached the record figure of 93 representing 18 firms. Later, the number declined and 1940 there were only 47 members. (65-68)

23. The Calcutta Hessian Exchange was established in 1919 and reconstituted as a limited company in 1929 with the primary object of regulating conditions governing the trade in 'futures' relating to deliveries for hessian, B. Twills and Australian Cornsacks. The minimum unit of sale was 10,000 yards until 27th October, 1940 after which it was raised to 50,000 yards. The membership in 1939 was 137. The delivery in the Calcutta Hessian Exchange Ltd., is made between the 25th and the last day of the delivery months which are February, May, August and November, and margins are settled weekly. But owing to the promulgation of "Bengal Raw Jute Futures and Hessian Cloth Futures Ordinance 1940" in May 1940, fixing the maximum and minimum prices of hessian, it was not possible to transact business within the limits; consequently, the exchange did not operate from June 1940 to March 1941. (69-71)

24. Bengal has been particularly benefitted through the establishment of jute industry which is responsible for the absorption of a large number of labourers and the consumption of considerable raw material, coal, machinery etc. The increase in the capital invested in jute mills in India—lately estimated at well over 26 crores of rupees—is a sufficient indication of the success achieved by the industry. During the closing years of the last Great War, mills were able to build up substantial reserves which stood them in good stead at the time of trade depressions, especially those of the nineteen-thirtys. However, the companies floated after 1918 were not in the same fortunate position as the erection of mills involved a heavy initial outlay, thus leaving only small reserves to fall back upon in emergencies. (72-74)

25. During the early stages of the industry, labour was available locally but, with further expansion, it was found necessary to recruit workers from Bihar and Orissa. Many of these outside labourers have become permanently domiciled in the mill area, although the majority of them retain connection with their village homes and visit them annually at the time of sowing or harvesting of crops. The wages per week of 54 working hours, earned by a labourer in a European mill, vary from Rs. 3 to Rs. 8, depending on the type of work and locality. The monthly salary of mechanical hands such as *mistries*, engine drivers etc. varies from Rs. 20 to 80, and that of the clerical staff ranges between Rs. 20 and 200. (75-78)

26. In 1916, a duty was levied on the export of jute and jute goods. The rates were doubled in 1917, since then they have remained unchanged. During the two decades following its imposition, this tax yielded a total revenue of about 97 crores of rupees. Until 1934, the receipts were wholly appropriated by the Central Exchequer but, later as a result of Sir Otto Niemeyer's recommendations, the allotment of 50 per cent. of the proceeds of the duty to the provinces—under the Government of India Act (1935)—was increased to 62½ per cent. (79, 80)

27. The jute manufacturing industry lends considerable support to many other industries, as well as to railways and steamer concerns. Coal industry is closely connected as it provides the motive power to mills. Railways and steamer companies earn large amounts as freight on the transport of raw and manufactured jute. Steel, iron, timber and leather being required by mills, are also benefitted by jute industry. (81-83)

28. Attempts have been made from time to time to restrict the production of jute fabrics, but detailed information is available since

1921 only. It seems that the associated mills worked 54 hours per week from April 1921 to June 1929, and 60 hours per week for one year after which they reverted to 54 hours owing to accumulation of stocks of jute manufactures in India and abroad. From October 1930 to February 1931, the mills closed one week per month, working 54 hours per week. From March 1931 to October 1934, mills worked 40 hours per week, with 15 per cent. looms sealed. Thereafter, looms were unsealed gradually, so that by February 1936 the full complement of looms was operating: forty-hour working, however, continued till March 1936. As these restrictions were not binding on 'outside' mills, the Jute Mills Association approached the Government of Bengal, to give statutory effect to the restrictions. The matter was referred to the Government of India which, after due consideration, expressed its inability to intervene. (84-87)

29. During the period, April to June 1936, mills worked an average of about 46 hours per week, and in July the average was about 50. In August 1936 mills resumed working 54 hours per week with a few exceptions. This continued until 26th September 1938, when, under the Bengal Jute Ordinance, all mills in Bengal were compelled to work 45 hours per week, with the exception of mills with 175 looms or under which were permitted to work 72 hours per week. (88-90)

30. From 20th February, 1929, mills worked 45 hours per week with the exception of those having 220 looms or less which worked 72 hours. A supplementary agreement on 31st July, 1939, caused further curtailment of production through the sealing of a certain percentage of both hessian and sacking looms and the introduction of 40 hours working. With the outbreak of War in September, 1939, however, large orders for sandbags were received from the British Government. It was therefore considered necessary to withdraw the restriction on looms and the working hours were gradually increased to 60 per week. (91)

31. As the delivery period for sandbags was extended at the end of January 1940, the working hours were reduced from 60 to 54 per week with effect from 8th April. Later, adverse war conditions in Europe caused further loss of trade which, together with shipping difficulties and the absence of indications of fresh sandbag orders, compelled jute mills to reduce working hours to 45 (19th August). Afterwards, shortage of shipping space and accumulation of stocks made greater curtailment of production necessary. Accordingly, from September onwards, mills with more than 220 looms were closed for one week in every four: the position was unchanged at the end of 1940. (92, 93)

Chapter III—Utilization of Jute for Manufacture.

32. There are six main sections in a jute mill namely, the Batching, Preparing, Spinning, Winding, Weaving and Finishing—each of which is responsible for a certain process in the manufacture. The cloth when woven is sent on to the Finishing department for special treatment and packing. Bags are also hemmed and sewn in this department. In addition to the sections connected with the processing of fibre and the actual manufacturing, there are engine rooms, workshops, jute storage godowns, Manager's office, general office, dispensary, etc., attached to each jute mill. (94, 95)

33. Most of the superior staff of a mill is trained in Dundee and duties are allotted according to qualification. With the exception of minor details, the system of working is very nearly uniform in all mills and goods are manufactured in conformity with the specification mentioned in the contract. (96-98)

34. With the expansion of the industry, dearth of local labourers was experienced, which led to the employment of a head *sardar* in each department for supplying the necessary labour. Recently, however, employment bureaux have been established at many mills and labour *sardars* and line *sardars* who are expert workers serve as guides to the ordinary labourers. (99)

35. In India, unlike Dundee, all the processes of manufacture are taken up under the same roof. Trained assorters open out the bales and assort the fibre according to its suitability for hessian and sacking warp and weft. The fibre is then transferred to 'batching section' where it is softened with oil and water either by hand or machine. It is common, however, to batch the finer grades by machine and the lower grades by hand. (100-104)

36. In the preparing department, various processes—carding, drawing and roving—are undertaken in order to prepare a 'rove' from the jute. Carding and drawing produce a fine ribbon of sliver which is drawn out to recognised size and weight for making a rove which is ultimately wound on to a rove bobbin. The roves are then spun into yarn in the spinning department. (105-111)

37. Afterwards, the yarn is either twisted or wound into spools for the warp, or cops for the weft. Next come the 'beaming and dressing' where the yarn is 'dressed' with a starch mixture and wound on a beam. In some mills, however, dressing is given to hessian yarn only. (112, 113)

38. The beams and cops are then woven into cloth in the factory. Hessian, canvas and tarpaulin are of 'plain weave', while sackings are

of 'plain or twill weave' with wouble warp. The fabrics are removed from the looms in pieces known as 'cuts' which afterwards undergo finishing processes, namely damping, calendering and folding, with the addition of cutting and sack sewing before they are finally packed ready for despatch. Special fabrics receive an additional finish by cropping and mangling. (114-116)

39. The common types of jute goods manufactured in India are hessian, sacking, canvas, yarn and twine. Hessian is made from white jute of good quality. Sacking is a heavy loosely woven cloth, and is manufactured from low grade fibre, while canvas is a closely woven cloth of fine texture made from white and tossa jute of good quality. Hessian is used mainly as meat wrappers, linoleum and floor cloth backing, cable wrapping and for making pockets, packs and bags. Sacking is used as furnishing foundation and for making bags for transport of grains and other commodities, while canvas is used principally for making tarpaulins. (117-121)

40. During 1860-70, sacking was classified as 'A', 'C' and 'E' according to type and quality, and the same are being used now for making A. Twills, Heavy Cees and E. Bags respectively. In 1868, sacking goods were first exported to United Kingdom by the Borneo Company, but the quality was very poor. In later years, Australia, New Zealand and South Africa also became buyers of Indian goods, followed by the United States of America, Egypt, South America, Argentine, Brazil and Cuba. (122-124)

41. Different kinds of sacking bags, varying in width and quality are produced in India but the hessian section has made little progress. Broadly speaking, there are only 2 types of hessian, namely, 9 and 11 porter from which various types of bags are prepared. (125-127)

42. Canvas is now manufactured by many mills in different sizes and qualities, the standard width being 37" and the weights 19, 20 and 24 ozs. Ropes, twines and cords prepared in the jute growing districts, are mostly sold locally. The large rope-making factories of India mostly use sisal and hemp, and consume jute in small quantities only. Hand-made jute ropes are commonly used for binding *kutch*a and *pucca* bales, although machine made ropes are also used for the latter. (128-132)

43. Until recently, the jute mills in India confined themselves to the manufacture of sacking and hessian only, but some have lately taken up the manufacture of canvas, rugs, carpets, waterproof cloth, roofing fabrics, linoleum hessian and union fabrics also. Since the beginning of the present war, fairly large orders have been placed in India for jute goods required for war purposes and these are being produced successfully. According to the latest information only 2 Indian

mills are engaged in rug and carpet making. The manufacture of waterproof cloth too has been successful and it has a great demand due to the war. The roofing fabric, however, has not met with full success and is still in an experimental stage in one mill, while linoleum hessian is manufactured in small quantities only. Union fabric made of cotton warp and jute weft are used for making portable water tanks, anti-gas caps, tarpaulins, etc. (133, 134)

44. Experiments are being undertaken in the Research Department of the Indian Jute Mills Association to find new uses for jute and in cottonising it. Attempts are also being made to evolve new types of fabrics. Research on Union fabrics as well has been included in their programme of work by the Technological Research Laboratories of the Indian Central Jute Committee. If these experiments are successful, the demand for raw jute is almost certain to increase. (135)

45. The cost of production of any commodity depends on the cost of raw material and working charges, both being variable. In the case of jute manufacture, the working charges include costs of establishment, power plant, oil, stores, transportation of goods, jute handling, welfare establishment, etc., all of which vary from one mill to another. (136)

46. In 1928-29, the consumption of raw jute by mills in India, calculated on the basis of looms and working hours, amounted to about 6,000,000 bales. Production figures have been published by the Indian Jute Mills Association since 1932, from which it appears that the consumption of raw jute began to increase in 1933-34, reaching the highest point in 1937-38 with about 7,542,000 bales. In 1938-39, however, the consumption declined owing to shorter working hours, but in 1939-40 it improved again—being about 7,470,000—owing to longer working hours. (137, 138)

47. An investigation in 8 jute mills representing 17 per cent. of the total loomage in India, and producing hessian and sacking in proportions of 36 and 64 respectively, revealed that East Bengal provided with about 76 per cent. of their jute requirements, North Bengal and Jalpaiguri area about 3.5 per cent. each, Assam and Dowrah 2.5 per cent. each and baled cuttings about 12 per cent. (139)

48. Mills in Bihar manufacture the more common types of sacking and consume mainly local fibre along with small quantities of East Bengal jute. Mills in the United Provinces use local as well as North Bengal and Bihar jute. Madras mills buy Orissa jute, Jat and District qualities of fibre from East Bengal and some selected lots from North Bengal and Bihar. (140)

49. No genuine effort appears to have been made at any time to prepare complete records for the whole trade, showing the production,

movement and consumption of raw jute and manufactured goods. According to the statistics published by the Indian Jute Mills Association, however, the average production of jute goods in India, during the period 1932-33 to 1938-39, amounted to 1,079,000 tons per annum. The percentages of different manufactures were—sacking cloth and bags 56.6, hessian 38.4, canvas 0.2, ropes and twine 0.3 and twist and yarn 4.5. (141-144)

50. In the earlier years, certain mill makes were 'barred' by overseas buyers owing to the inferior quality of production and irregularity in weight. As far back as 1936, overseas consumers refused to accept manufactures from certain mills due to irregularities found in weight and quality but this had little effect on the mills as it was not difficult for them to find consumers even for low class fabrics. The Bemis Bro. Bag Co. of Boston, U. S. A., who are one of the largest dealers have classified various Indian mills into A, B and C groups according to the quality of their hessian—about 80 mills fall under these groups. This grouping has come to be recognised by the trade as accurate and impartial. Price differences between various groups have been laid down by the Company, but they tend to vary from time to time. (145, 146)

51. There is, on the other hand, no recognised classification of sacking, but certain mills specialise in the production of high grade fabrics which command a premium. The Melbourne Wool Brokers Association of Australia took the initiative in this respect and, after examining the quality of woolpacks, classified 22 mills into A, B, C and D groups. This grouping, to which the trade in general hardly attach any importance, is revised annually. (147, 148)

Chapter IV—The Marketing of Jute Products.

52. As mentioned earlier, the first consignment of sackings sent to England from India in 1868 was of a poor standard. However, with improvement in quality and owing to their cheapness, Indian goods later captured overseas markets and soon replaced Dundee manufactures in Australia and South America. (149)

53. The attention of the mills in India was then drawn to hessian and, by 1890, the quality improved considerably so that it was possible to find markets in North and South America, Australia and Europe where Scottish hessian had previously established a monopoly. Although Indian hessian could not completely drive out the Scottish fabrics from North and South America, it was more in demand than the Dundee cloth. (150)

54. There are five classes of merchants dealing in jute fabrics
 (1) shipper or export agent (2) speculative dealer or

shipper, (3) bazar speculative merchant, (4) broker dealer or jobber, and (5) broker. Until about 1900, mills sold their goods to shippers only who used to receive enquiries and offers from overseas. A broker was, however, employed while negotiating with mills. (151, 152)

55. In the early part of this century, some merchants started buying particular classes of goods with a view to sell at a profit at the time of the heavy seasonal demand. The Great War gave an impetus to this kind of trading, and many *Marwari* merchants also joined with the idea of speculation. Afterwards, many merchants and shippers were also attracted, but the speculative character of this business led many of them into severe losses. (153, 154)

56. With the growth of trade, it became necessary for shippers to appoint agents in the overseas distributing centres. On account of keen competition they cannot now afford to charge commission at more than one half per cent. of the value of goods, although in the past it was seldom less than one per cent. Shippers' difficulties were further aggravated by the outbreak of war in 1939 which led to the imposition of exchange control and the restriction of freight space. (155, 156)

57. Speculative dealers and shippers are largely the product of the last world war. They keep in close touch with overseas markets, largely for the purpose of obtaining information regarding the trend of demand which would be of value in their speculative dealings. They accept orders either for ready goods which they can supply from stock or for forward deliveries if the prices quoted prove attractive enough in the light of their own assessment of the future trend of the market. The merchants are now quite prominent in the export market. (157)

58. Bazar dealers operate as intermediaries between overseas consumers and mills, accept the risks of placing order with mills for forward positions and are responsible for the sale of about 75 per cent. of the mills total production. In addition to their speculative dealing, they have broking business and many also carry on wholesale and retail business in gunnies. (158, 159)

59. The speculative gunny merchant is useful to the trade on account of his operations which provide a hedge for mills against their jute stocks. He also serves as a useful medium for the shipper to draw on for competitive prices. But the highly speculative method of marketing, divorced from the consideration of genuine supply and demand, is likely to affect the interests of the manufacturing industry adversely in the long run. The present arrangement with regard to the marketing of manufactured goods appears to have met the needs of bazar and mills, but it is not considered completely satisfactory and requires drastic overhauling. (160)

60. Broker dealers, as the name implies, are essentially brokers, but also act as speculative dealers on their own account when circumstances are favourable. Their number has increased during the last twenty years. They are thoroughly conversant with the various types of fabrics, their prices and the market conditions. (161)

61. The usefulness of a broker lies in the fact that he possesses complete information regarding this trade, and is therefore competent to direct shippers to the right mills. The system followed by European brokers is to call on shippers after collecting the opening prices from the bazar. The details of overseas enquiries are then referred to mills and quotations obtained. Later, sales take place after some negotiation with the shipper. Indian broking firms follow a similar procedure, but in certain respects they enjoy some advantages over the European, and having closer connection with bazar dealers can command a better business. (162-164)

62. There is another class of brokers—called freight brokers—who help both shippers and exporters by collecting for them information regarding shipment dates, available freight space, departure of steamers, etc., and do all that is needful in this connection. They receive a commission of one per cent. on the value of freight. (165)

63. Each month, during the pre-war days, 6 to 7 steamers sailed for the United States of America, about 12 for United Kingdom, 2 to 3 for the Continent and 3 or 4 to the Far East, while for Australia and South America there was 1 regular sailing. For Africa and the Cape, 2 steamer sailed each month and for Near East 1 or 2, while for New Zealand there was 1 regular sailing every 4 months. (166)

64. By arranging the sale of bills of exchange, loans against documents, etc., exchange brokers serve as useful intermediaries between banks and merchants in respect of all financial dealings. They charge a brokerage of one-sixteenth of one per cent. from sellers. (167)

65. Mills' policy in buying raw jute and selling finished goods is determined by the Managing Agents who often have other trading interests also, which may include loose jute purchasing agencies in the *mofussil*, jute and gunny export and shipping, etc. Forward trading is common with all mills, about 60 to 70 per cent. of the production being customarily sold in this manner and the balance kept for ready sale. (168,169)

66. At the time of sale, Calcutta mills use the Indian Jute Mills Association contracts. In principal contracts, brokers accept responsibility for both parties fulfilling their commitments. Disputes arising out of the nonfulfilment of contractual obligations are either amicably settled or referred to the Tribunal of Arbitration of the Bengal Chamber

of Commerce. European mills use these contracts both for internal and export business, but Indian mills do not use any contract for internal trade and push their business through agents posted at various consuming centres. The upcountry mills ordinarily adopt the latter practice, but some of them use a modified form of the I. J. M. A. contract approved by the Association in 1938. (170-172)

67. The volume of trading done according to Association contract is large, being about 75 per cent. of the total exports. Most of the gunny contracts between any two parties permit options in sizes (widths) which have to be declared at least 45 days before due date or by the fifteenth day of the month preceding delivery. Extra charges are, however, realised for goods which are not of standard sizes. (173-175)

68. Mills selling according to contracts receive shipping instructions from the respective shippers in respect of the delivery or despatch of goods. These instructions specify *inter alia* the distinguishing marks to be stamped on the bales. Ordinarily 5 to 7 clear working days' notice is given to a mill for delivering goods at docks or on rail. (176)

69. When a buyer fails to issue shipping instructions to a mill within the stipulated time, an intimation about the goods lying ready is sent to the buyer by the mill's agent and the bill for the goods is presented on the due date for payment. When payment is made the agent gives a formal receipt and also a 'Delivery Order' which is addressed to the manager of the mill where the order for goods was placed. A Delivery Order is regarded in the gunny trade as a negotiable instrument and may change hands any number of times until delivery is taken. (177, 178)

70. Wholesale dealers buy either direct or through brokers, from Indian bazar dealers or from one or two Indian managed mills and store goods in godowns. Free delivery is given at the nearest steamer station or railway siding, but a small charge is made when goods are delivered at buyers' premises. Retail dealers possess small shops and generally buy one or two cuts of hessian or fifty bags of any size at a time. The difference between ex-mill wholesale and retail prices varies considerably depending on the type of manufacture. According to various estimates, the wholesale and retail sales amount to something between 50 and 60 lakhs yards of hessian and about 30 lakhs of bags annually. (179, 180)

71. In general practice, consumers or agents, send out enquiries to Calcutta exporters who, in turn, circulate them to mills or bazar through brokers. For odd sizes and special fabrics not ordinarily available in the bazar, the best rates offered by mills are accepted. In

case of standard goods, however, a shipper may either cable the current market rate or a price based on his own opinion of the future trend of the market. These offers remain in force for a definite period (generally 24 hours). Sales are thus made by cable and, when confirmed, a contract authorised by the Calcutta Jute Fabrics Shippers Association is issued by the exporters. (181)

72. Two forms of contract are used for sales to overseas markets—one for Europe, Canada, North and South America, Japan, Russia and the near East, and the other for Australia, New Zealand and South Pacific Islands—there being a slight difference in the terms of payment, methods of arbitration, etc. According to the specifications of the first contract, claims of certain nature are referred to the Tribunal of Arbitration of the Bengal Chamber of Commerce, while others may be settled at buyer's option either in London, Liverpool, Glasgow or Dundee. But in the case of the second contract, the disputes which cannot be settled amicably, are referred to the above mentioned Tribunal of Arbitration. (182, 183)

73. The expenses for exporting jute fabrics from India consist of shippers' overhead charges, operating expenses, freight, and landing charges at ports of destination. As regards goods imported by the United States, free delivery is given on board the steamer at Calcutta, freight being arranged and paid for in that country, whereas in the case of goods despatched to the United Kingdom, Australia, New Zealand, South Africa and the Far East, freight and insurance charges are included in the prices. Landing charges at ports of destination are invariably borne by the overseas buyers. (184-189)

74. The meagre statistics available regarding the distribution of jute goods to markets in India preclude any accurate estimate of the country's actual consumption. The figures published in this connexion are incomplete. Therefore, the collection of data with a view to ascertain the actual and potential home requirements of gunny products appears necessary. However, an indication of the trend of internal consumption of gunny cloth and bags may be obtained from the delivery figures of Calcutta mills which show that, during 1935-36 to 1938-39, the offtake of bags and cloth increased by a big margin as a result of the development in sugar, flour and cement industries. The year 1938-39 saw something in the nature of a boom in the demand for goods in India, which may be attributed to a large extent, to dealers laying in stocks of goods on account of the uncertainties of the international situation. The types and classes of bags and cloth that are principally in demand are, B. Twills, Heavy Cees, E. Bags, A. Twills, D. W. Flour bags and 9 and 11 porter hessian. Calcutta, Madras,

Bombay, Karachi, Lahore and Cawnpore are the most important distributing centres. (190-193)

75. The demand for bags depends to a great extent on the prospects of agricultural crops. Further, it has been found that when jute fabrics are cheap, they are used more extensively. But, if the prices increase, consumers substitute jute goods with some other cheap packing materials, or second-hand bags remain in circulation much longer. A full enquiry into the use of substitute fabrics in various countries is likely to yield results which would be of considerable value to the trade in India. (194, 195)

76. Many foreign countries have been trying to produce fibres which could replace jute. Besides, certain governments have levied prohibitive import duties on jute goods so as to discourage their use, thereby helping the indigenous industry. Moreover, the introduction of bulk storage and handling of wheat in America, Canada, Australia and the Argentine has cut heavily into the demand for bags. (196)

77. After the last Great War, world economic conditions improved, and during 1920-30 agricultural and industrial production reached new levels which gave further impetus to the jute manufacturing industry in India. Due to the economic depression, however, the offtake in the following five years declined considerably; but, when trade began to recover in 1935, the exports of jute goods increased once again. (197, 198)

78. For many years the productive capacity of mills has been in excess of the demand for jute goods. In order to estimate the excess productivity, the following factors may be studied:—

- (a) normal demand for jute goods,
- (b) normal hours of work, and
- (c) the normal loom strength required to meet the normal demand.

And, 54 hours per week could be reasonably taken as the normal working hours of the mills. (199)

79. During 1927-28 to 1938-39, the highest foreign demand for jute goods occurred in 1936-37, when the exports amounted to 972,000 tons and there 65,273 looms in India. But in 1928-29, India had exported 912,000 tons of jute goods and had a total loomage of 52,409 only. Thus, if the demand in normal times is not expected to exceed that of 1936-37, the loom strength of 1928-29, with an additional working of 3 hours per week, should prove sufficient. (200, 201)

80. During 1928-29 and 1938-39, sacking bags and hessian cloth respectively constituted about 50 and 41 per cent. of the total exports

of jute goods from India. Hessian bags have shown a marked increase in popularity, the average exports being 5.8 per cent., while the demand for canvas has also increased immensely. (202,203)

81. North America has been the largest buyer of hessian cloth and bags for many years, but her direct imports from India dropped since 1932, when British merchants commenced trading in certain lines of hessian and twill sacking made in Calcutta up to Dundee standards. South America, the United Kingdom and Australia are other important buyers of gunny cloth, while South Africa, Egypt and Turkey are taking steadily increasing quantities. (204—206)

82. The export of bags to North and South America and Australia has declined considerably in recent years due to the bulk handling of wheat. The use of kraft paper bags for packing cement in Brazil and the Argentine has also been responsible for reduced imports of bags by South America. In the circumstances, it is imperative that the trade should make organised efforts to popularise jute containers on those continents.

The total exports of bags from India, however, show an improvement. The United Kingdom and the Straits Settlements have been consistent users of jute containers, while China has been an important outlet for the heavier types of sacking bags for many years. Prominent among other consuming countries are Burma, West Indies and Japan. (207—217)

83. It appears that mills in India have not had direct connections with the consumers of their products overseas. One result of this is that they have confined their manufactures to standard fabrics only and have not tried to explore the possible demand for any special type of jute manufacture. The present war has caused a serious decline in the exports of raw fibre ; therefore, it is desirable that new markets and fresh uses should be found both for raw and manufactured jute. (218, 219)

84. The United States of America and Canada import mainly hessian and gunny cloth, as the American consumer prefers to have bags made into sizes to suit his own particular requirements. Jute fabrics are utilised for a large variety of purposes, e.g. wrappers, coverings, upholstery foundations, etc. Sacking bags are imported in much smaller quantities, and are composed of Liverpools and A. Twills, Cuban Sugar Bags and good quality D. W. Bags. (220)

85. United Kingdom's purchases consist of cloth and hessian bags. Much of the cloth, however, is re-exported to North and South America and other European countries. A fair quantity of B. Twill, Liverpool,

D. W. Flour Bags and Cornsacks is also imported. Dundee, of course, meets the greater part of the country's requirements, particularly of cloth for special purposes. (221)

86. In the Argentine, light hessian forms an important article of import and provides wrappers for meat. Hessian is also used for making bags and for upholstery work. Moderate quantities are taken by Chile and Peru as well, being generally utilised as packing material for light weight commodities. A fairly large business is done in sacking products, including E. Bags, Ore Pockets and Nitrates. (222, 223)

87. South Africa purchases hessian cloth for fruit drying and bag making. Sacking bags taken by this country comprise B. Twills, Liverpools, D. W. Salts, D. E. Wattle bags and Woolpack. Australia imports hessians of a large variety of widths for general utility purposes. The principal lines of sacking fabrics taken are Cornsacks for which there is an annual demand of over 50 million bags—Woolpacks and Bran Bags. New Zealand is a big importer of woolpacks of various sizes, as well as hessian and A. Twill bags. (224—226)

88. Egypt and the Levant import 11 porter hessian of different sizes, also Heavy Cees, Sugar Twills, B. Twill bags, Egyptian Grain-sacks, Cotton packs and Onion pockets. Turkey buys principally standard hessian cloth and Sugar Twills, other imports being B. Twill and Grainsacks. (227, 228)

89. France's requirements have been mostly confined to B. Twill bags, while Germany consumed both 9 and 11 porter hessians as well as Oslo Twill sacking for packing fertilisers. Scandinavian countries import, in addition to other manufactures, fair quantities of twill sacking cloth for making bags. (229—231)

90. Sacking bags and nominal quantities of hessian have been in demand in the Balkan countries. Iran takes a small quantity of hessian, principally 11 porter, and also imports Sugar Twills, A. Twills, Heavy Cees and Grainsacks. (232, 233).

91. Burma's main requirements are for Heavy Cee Bags to meet the demand of rice exporters, although considerable trade is done in E. Bags for wrapping tea chests. Some hessian cloth is taken for general packing purposes. (234)

92. Special sizes of hessian bags are imported by Cuba and the West Indies, together with Heavy Cees, Cuban Sugar Bags and Cocoa Bags. China's imports consist of Heavy Cees, A. and B. Twills and 9 and 11 porter hessians. Mauritius, however, takes a fair quantity of A. Twills and Cornsacks of special sizes, along with other heavy types of bags. (235—237)

93. Thailand (Siam) imports large quantities of Heavy Cee Bags to pack rice and paddy, and also takes E. Bags and B. Twills. Java and the Dutch East Indies are principally interested in A. Twills, while French Indo-China mainly requires Heavy and Light Cees and E. Bags. The Straits Settlements are important consumers of sacking goods, while Japan imports Heavy Cees and A. Twills the latter being sent to Formosa. Brazil, however, does not buy jute goods but manufactures them from raw jute obtained from India. (238—243)

94. Claim against non-performance of contract conditions should be lodged with the Calcutta shipper within 21 days of the receipt of goods. He then tries to settle the matter amicably, failing which the dispute is referred to an arbitration, the costs being borne by the losing party. Shippers criticize this arrangement on the ground that although there are licensed surveyors in all countries capable of assessing the amount of claim after the proper examination of goods, it has become customary to return two bales to Calcutta. (Disputes regarding raw jute are settled in London and Dundee.) Gunny merchants would also welcome an arbitration on the lines of raw jute for, in most cases, it is difficult for overseas merchants to return two intact bales as the consignment is sold out to small dealers in lots of two to five bales.

It would, thus, appear that there is considerable room for improvement in the procedure for handling claims on jute goods. Some of the principles governing the overseas raw jute trade could also be applied with benefit to the gunny export trade. (244—246)

95. Substitutes, such as paper and cotton, have caused serious loss to jute trade, but more harm has been done by the handling and transportation of grain crops in bulk. The various competitors of jute may be classified under (a) fibres—vegetable and artificial, (b) non-fibrous material, such as paper and (c) bulk handling and transportation of grain. (247, 248)

96. There are 40 vegetable fibres (see Appendix I) which are either competing or are considered to be real dangers to the jute trade. Of these, cotton, rosella, kenaf and sisal are most important. Owing to its superiority over jute, cotton is a serious competitor in the United States, and efforts are being made to encourage its use as much as possible. It was not until 1934 that rosella emerged as a competitor of jute in Java. As a result of the manufacture of sugar bags from this fibre, the imports of jute bags have been reduced by about 15 per cent. Further, Kenaf, a coarse heavy fibre, is grown in China and Manchukuo, and mixed with jute for the manufacture of cloth and bags. Moreover, serious attempts are being made in Italy to replace jute with Sisal, which has recently caused a decline in the exports of

jute to that country. Again, both Germany and Italy have been trying to produce synthetic fibres capable of acting as substitutes for jute. At present these efforts must be yielding considerable results. (249, 250)

97. Germany was the first producer of *Kraft-Papier*, but now South America and Australia have also come in the field and are producing paper bags. In France as well, several large paper mills have taken up the production of *kraft* bags for packing potatoes, grain, cement, etc.

Thus, paper has become one of the most important competitors ; consequently, every possible means of meeting this competition should be explored by the industry in India. (251)

98. The handling and transportation of grain in bulk first originated in Argentine in 1881. North America adopted the system towards the end of the nineteenth century, Canada in 1901 and Brazil a few years later. Afterwards, it was introduced in more countries, for example, Australia, South Africa and Soviet Russia.

The extent to which this system reduces the demand for jute goods is considerable and as it expands, the offtake of fabrics and bags used particularly for packing wheat is likely to diminish. Therefore, the obvious course for jute industry is to develop new uses and markets for its goods. (252-254)

Chapter V—Jute Export Trade.

99. During the nineteenth century export trade in jute was confined to raw fibre only. The United Kingdom, the United States, Australia, France, Germany, Holland, Russia, Spain and the Scandinavian countries were the principal importers. (225)

100. With the expansion of trade, buying agencies were organised in important growing areas. Later, convenient points were selected near Calcutta which gradually led to the formation of markets. The places thus chosen were Howrah and Chitpore where agents were appointed to receive consignments of jute and organise its sale, thus creating agent-cum-dealers. In course of time, large markets came into existence at Cossipore, Baghbazar, Chitpore, Shambazar and Hatkhola. (256)

101. Gradually, other types of intermediaries made their appearance. The functionaries who now take part in the raw jute export trade are (a) overseas consumers, (b) jute balers and exporters, (c) loose jute dealers, (d) jute brokers, (e) *pucca* balers, and (f) baled jute shippers. (257)

102. Jute pressing was introduced in the middle of the nineteenth century in order to reduce the bulk of the fibre. The first steam hydraulic press was established by a European Company at Salkia (Howrah) in 1863. The number gradually increased, and by 1873 there were 81 presses, out of which 13 were of the hydraulic type. (258, 259)

103. Root cuttings were formerly thrown out as they were considered useless, but Dundee has been utilising them since 1871. Later on, India built up considerable business in the export of cuttings, the United Kingdom and United States of America importing large quantities. The term 'Rejections' came into existence as early as 1865, but now much of the fibre, which would have been previously placed under this category, can be packed under a recognised jute mark, viz. 'Hearts'. (260, 261)

104. The Calcutta Baled Jute Association issued in 1893 its first book of marks and assortments which met with the approval of overseas trade. In course of time, this annual publication assumed great importance, and now there is a keen demand for it from all jute consuming countries. The London Jute Association has again classified these marks under separate heads according to the guarantee of quality and regularity of assortment. Thus, a group of marks, called 'actuals' was created and, being revised annually, serves as an important guidance to consumers. (262)

105. There are five associations in Calcutta which are connected with baled jute trade:—

- (i) the Calcutta Hydraulic Press Association,
- (ii) the Calcutta Baled Jute Association,
- (iii) the Calcutta Baled Jute Shippers Association,
- (iv) Jute Balers Association, and
- (v) the East India Jute Association. (263)

106. The Calcutta Hydraulic Press Association was originally formed about 1880 with the main idea of putting the industry on a paying basis. There was continual friction among its members which caused a drop in the membership, and its activities ceased between 1906 and 1912. It was, however, revived in 1913 and reconstituted a year later: and, since 1917, the dealings between press house owners, or agents, and balers are regulated by means of standard contracts. After further vicissitude and decline in membership, a production agreement was reached in 1939 which helped in bringing almost all presses within its membership. (264-267)

107. The Calcutta Baled Jute Association was constituted in 1892, when contracts were drawn up to govern exports of baled jute, rejections and cuttings. With the exception of a few minor alterations, the terms

of the contracts have not materially changed since then. The Association has maintained close co-operation with the overseas trade organisations and has been of considerable help to its members. (268, 269)

108. The Calcutta Baled Jute Shippers Association was formed in 1908 and was reconstituted in 1924. It was registered in 1926 as a non-profit-sharing body with the object of promoting and regulating the shipping of baled jute. In 1939, there were 14 member companies, all of them being European. (270)

109. Jute Balers Association was constituted in 1909 to promote jute trade in India. Membership, though open to all firms doing business in baled jute in Calcutta, is solely confined to Indian *pucca* balers, and all trading between members is done on the Calcutta Baled Jute Association's contract. (271)

110. The East India Jute Association controls 'futures' trading in raw jute, the basis of transactions being *pucca* bales. (Full details have been given in the First Report on the Marketing of Jute). In 1940, an expert was appointed to undertake an enquiry into the working of jute Futures with a view to effecting improvements where necessary. (272)

111. The London Jute Association was incorporated in 1911 with the object of protecting and enhancing the jute trade by encouraging united feeling among all engaged in raw and manufactured jute business. The United Kingdom Jute Goods Association which was incorporated in 1909, and aims at regularising and controlling matters dealing with the purchase and sale of jute goods in the United Kingdom. There are 3 associations in Dundee which look after the interests of jute industry. They are (1) The Association of Jute Spinners and Manufacturers, (2) Jute Importers' Association, and (3) Jute and Linen Goods Merchants' Association. A number of organisations have been formed on the Continent to safeguard and protect jute trade. (273)

Chapter VI—The Marketing of Jute for Export.

112. Four classes of operators—namely, (i) balers and exporters, (ii) hydraulic pressing concerns, (iii) baled jute shippers, and (iv) brokers—are principally engaged in raw jute export trade in India. (274)

113. Balers and exporters either own or rent baling presses, and function as sellers of *pucca* bales to mills and shippers. Hydraulic presses pack loose jute into *pucca* bales, and store and export it as required. Baled jute shippers deal with overseas markets, and obtain

their requirements of public marks or other standard specifications from balers. Jute brokers, when dealing in *pucca* bales, operate between balers and shippers, and charge a commission of three-quarters to one per cent. on the value of the transaction. (275-278)

114. A large percentage of jute sold for export belongs to the qualities produced in North Bengal and the *Daisee* growing areas. This fibre is purchased by Calcutta balers from Cossipore, Hatkhola, Chitpore, Fulbagan and Shambazar markets, either direct from merchants or through brokers. East Bengal jute is also bought through brokers, all purchases in Calcutta markets being 'spot' and under *tale quale* system. (279)

115. The jute exporter arranges sales either direct with consumers or through agents stationed in various overseas countries. When Calcutta mills or shippers want to buy *pucca* bales, their requirements in regard to quantity, quality and price are submitted to balers through brokers. (280, 281)

116. Transactions between *pucca* balers and baled jute shippers are effected according to the conditions laid down by the Calcutta Baled Jute Association in their contract forms relating to Rejections, Cuttings and raw jute. When the quality is not up to the standard and has been proved to be so by arbitration, the buyer has the option of either cancelling the contract or demanding a fresh tender at the contract rate, except when a Home Guarantee has been given by sellers to buyers. (282)

117. Seller's responsibility ceases on delivery of mate's or dock receipt when a 'Home Guarantee' is given. Under 'Home Guarantee', the seller guarantees that the quality delivered conforms to the London Jute Association's standard grade, and he agrees to accept the award if any arbitration is held in London or Dundee. (283)

118. A large quantity of jute sold in London is meant for delivery to Continental countries. The bulk consists of public marks of the usual North Bengal standards of quality, and certain deductions are permitted if inferior quality is delivered. In case the inferiority is judged to be high, the buyer has the option of invoicing back the consignment to the seller. The form of contract issued by the Dundee Jute Importers Association Ltd., is almost identical to that of the London Association. (284, 285)

119. Much of the jute sent to America is of superior quality, and is composed mainly of good class balers' private marks. Arbitration was formerly held in London but, after the outbreak of war, American merchants requested the Calcutta Baled Jute Association to permit arbitrations to be held in their country. (286)

120. *Pucca* bale marks, carrying a guarantee of quality, are published annually in book form. They fall under three categories—(i) Public Marks, (ii) Short Groups and (iii) Private Marks. Public marks are those which are registered with the Calcutta Baled Jute Association. From these, the London Jute Association selects a few marks which are grouped as (1) Reds, (2) Firsts, (3) Lightnings, (4) Hearts, (5) Tossa and (6) Daisee. (287, 288)

121. Short groups consist of a few marks selected from the London Jute Association groups, being considered by the trade to be most reliable. Again, some balers have special marks of their own which are known as 'Private Marks'. They generally prepare catalogues containing a description of their marks and distribute them among agents and customers for guidance. (289, 290)

122. 'Continental' or 'Outport' are chiefly made up from selected qualities of the fibre grown in the northern areas of Bengal, Bihar and Assam. They are packed according to the variety or type of fibre, namely (i) white jute—the recognised grades being Reds, Firsts, Lightnings and Hearts, (ii) tossa jute—district of Jessore, Murshidabad, Rajshahi and Pabna in Bengal provide the bulk of this packing, and (iii) *daisee* jute—namely the product of 24-Parganas, Hooghly, Howrah, Midnapore, Khulna and lower Jessore. (291, 293)

123. Of the Private Marks, 'Daccas' and 'Superior District'—formerly called 'Diamond' and 'Mangoes'—are the important ones. Daccas (white) are principally composed of selected *jat* fibre, while the Superior District quality is made up of high class jute from Chandpur, Noakhali and Madaripur. Tossa Daccas and Superior District Tossa are similarly composed of tossa fibre from good *jat* and district quality areas respectively. (294)

124. Mixing Cuttings and Naraingunge Cuttings are obtained from white jute: the latter are derived principally from East Bengal areas and are longer than the former. Tossa Cuttings are short, hard and rooty. (295)

125. Dundee spinners take an all round higher standard of quality than is generally found in 'outport' marks, and the packing intended for them is commonly referred to as 'Dundee standard'. Buyers in other countries when desiring a superior class of 'outport' packing may stipulate that the quality required should be up to this standard. (296)

126. *Pucca* baling presses are mostly located in the neighbourhood of Calcutta and Howrah, only 9 being established in the *mofussil*. The *pucca* baling houses of Calcutta are substantially constructed buildings

of brick or stone.' The responsibilities of press owners are many and varied. (297-300)

127. The *pucca* baling establishments in the *mofussil* are owned by baler-shippers. The sheds and buildings are, in most cases, masonry structures, and the system of working is similar to that of Calcutta. Wages, however, are lower upcountry. (301)

128. A *pucca* baler has got to be more selective in his purchases than a *kutch*a baler, consequently the average exporter ordinarily pays a premium for superior qualities. On arrival, the loose jute is inspected and stored in importing sheds. When the time comes, it is transferred to the assorting sheds where 'cutters' open the *kutch*a bales (or drums), cut the hard roots and hackle the lower ends of the fibre. *Bojhas* of 25 to 30 *morahs* of identical qualities are then made and stacked for checking by the supervising staff prior to being passed on for baling. (302-304)

129. The process of baling consists of packing 400 pounds of fibre into a compact form having definite measurements. Considerable care is taken in placing the *morahs* in the pressing box evenly and in avoiding overpressing which is a fault common with Marwari balers. When overpressed, the fibre is liable to break, besides there being danger of 'heart damage' when packed in a damp condition. Exporting consists of removing bales from the press house to the storage godowns and subsequently for shipment. (305-308)

130. The overhead expenses of European export balers are generally higher than those of Indian. They fall under two categories known as 'Standing' and 'Working' charges. The former include expenditure on general establishment, fees of various kinds, office insurance, etc., and have been estimated at Rs. 1-4-0 per bale. Working charges, on the other hand, are incurred on the actual handling and movement of jute from the time it is imported in loose form until it is exported in *pucca* bales. This group covers expenses known as handling, importing, assorting—expenses on this item vary according to the quality of jute packed—rope and ropemaking and pressing charges: the expenditure in this connection has been calculated at Rs. 2-8-6 out of which as. 13 are spent on pressing. (309-316)

131. The total expenses, including those on exporting, hessian bale ticket and boat hire for transport, amount to Rs. 4-3-0 per bale. Wastage, though not actually a charge, is also taken into account at the rate of 1½ per cent. on the market value of the fibre. Then a certain amount is deducted as saving through difference in weight. (317-321)

132. Before the outbreak of the present war, most of the overseas sales were effected on the c.i.f. basis ; but, now owing to abnormal conditions, practically all contracts are on f.a.s. or f.o.b. basis. Prior to actual shipment, some more expenses are incurred, namely, jute export duty, Improvement Trust cess, Port Commissioner's charges and sewer and river toll. These charges amount to a little over Rs. 5-0-0 per bale. If a broker is employed in Calcutta and an agent engaged abroad, they receive commission at $\frac{3}{4}$ per cent. of the baled jute price in Calcutta and $1\frac{1}{2}$ per cent. of the c.i.f. price respectively. Since the commencement of the present war, freight and insurance rates vary *pro re nata*. (322—325)

133. Disputes in connection with loose jute purchases under the Indian Jute Mills Association contract are in many cases settled amicably, failing which they are referred to the Tribunal of Arbitration of the Bengal Chamber of Commerce, its awards being final and binding on the parties concerned. When the shortage in weight is less than 20 per cent. reweighment charges are paid by the buyer, otherwise the seller pays the fees. When claims under private contracts are not settled amicably, they are referred to private arbitration. If this also fails, an umpire decides the case, his decision being final. No claims are, however, made for bazar purchases which are done on *tale quale* system. (326—328)

134. Disputes between balers and mills, with regard to *pucca* bales, are settled as in the case of loose jute. Disputes relating to exports, however, are arbitrated upon according to the rules laid down by the Calcutta Baled Jute Association. An appeal from the award of arbitrators is permitted, but the decision of the expert, who is appointed on such occasions, is final and binding on both parties. (329)

135. Claims arising against quality or condition of jute shipped to Australia or Far East, are settled amicably in most cases, otherwise a few bales are returned to Calcutta for arbitration. But shipments to Europe and America are arbitrated upon in London and appeals are allowed. The appellant, however, has to pay additional investigating and expert's fees. Claims with regard to jute imported into Dundee which cannot be settled privately are referred to Dundee Jute Importers Association for arbitration. (330—332)

136. Chittagong is a port of some importance in the export of raw jute, handling the bulk of *pucca* bales packed in Narayangunge and Chandpur. No inspection for quality is made at the port, all jute sent from there being sold on 'Home Guarantee' basis, which bears the 'invoicing back' clause. Bales which have burst and become damp,

or been stained by oil from the wagons, are, however, returned to the shipper from the port. (333)

137. The annual exports of raw jute for many years exceeded the quantity consumed by mills in India. The position was, however, reversed from 1909-10 onwards. The variations in jute exports after the last world war are characteristic of the business cycle as represented by the world's industrial production. But, the effect of the European war, since 1939, has been disastrous. European countries, which normally consumed over 50 per cent. of the total exports, are now directly involved in the conflict ; and, other countries are facing trading difficulties. (334, 335)

138. Foreign countries import varying quantities of jute. Their shares in the total Indian exports, during 1934-35 to 1938-39, were (in percentage):—the United Kingdom—22.4, Germany—18.5, France—10.2, Italy—8.7, The United States—9.3, Belgium—7.7, Spain—3.4, Brazil—2.9, Holland—2.4, Japan—2.9, Egypt—0.9, China—1.6, the Argentine—1.2, and other countries—7.9. From the average of twenty years (1919-20 to 1938-39), it appears that 24.6 per cent. of India's exports of raw jute went to the United Kingdom, 22.5 to Germany and 11.5 and 10.5 to France and the States respectively. (336—349)

139. Many Dundee products are woven from yarn containing 40 to 50 per cent. *daisee* jute, a fibre which the majority of mills in Calcutta refuse to buy as they consider it unsuitable for good spinning. Similarly, on the Continent, the bulk of fabrics are manufactured from North Bengal and Bihar jute which is used by mills in India in limited quantities only. (350)

140. Good *daisee* fibre constitutes about 40 per cent. of the imports of the United Kingdom, the balance being made up of superior Jat and District qualities with a small proportion of North Bengal. The United States take a higher overhead selection than any other country. About 65 per cent. of the imports are composed of selected grades of Jat, District and North Bengal jute and the rest of cuttings. (351, 352)

141. Germany imported Firsts, Lightnings and Hearts, as well as some low grade Tossa and *daisee* jute, but the goods produced there were superior to those made by mills in India. The normal imports of Italy, however, were of a fairly good standard, and consisted of about 70 per cent. East Bengal jute and 30 per cent. commonly packed Firsts, Lightnings and *daisee*. Approximately 80 per cent. of France's requirements were for North Bengal fibre, the balance being made up of good Jat and superior District. (353—355)

142. The bulk of jute taken by Belgium belonged to North Bengal quality, with a fair demand for good class East Bengal packing. Brazil's

imports are of similar nature, while Japan buys lower marks of North and East Bengal and ordinary grades of cuttings. The exports to the Argentine are formed principally of North Bengal fibre, with a fair percentage of Jat and District qualities. Australia takes East Bengal District Tossa, superior Firsts and Lightning grades from North Bengal and small lots of good quality cuttings. (356—360)

143. Recently, manufacturers have shown a tendency to use larger quantities of common grades in preference to high class jute, which is mainly due to improvements in spinning machinery. Another notable feature has been the steady expansion in the demand for Tossa, both in India and overseas countries ; therefore, its cultivation should be encouraged in the most suitable areas of North and East Bengal. (361—363)

Chapter VII—Wholesale Prices (1930-31 to 1940)

144. Many factors influence the prices of raw jute and manufactured goods, thereby making it difficult to find a jute year which can be considered 'normal'. During the present century, jute prices were highest during the decade 1920-29, but touched exceptionally low levels in the following ten years. A very large crop in 1930-31 and the unprecedented trade depression were responsible for the accumulation of big stocks of unsold jute goods both in India and abroad. Therefore, mills adopted measures to restrict production. On the whole, the prices received a severe set back. The average prices of jute, 9 porter hessian and heavy cees, in 1930-31 were respectively Rs. 30-7-3 per *pucca* bale, Rs. 8-9-5 per 100 yds. and Rs. 27-13-8 per 100 bags, against Rs. 54-14-4, 12-7-3 and 33-15-9 in 1929-30. (364—366)

145. Reduction of jute land in 1931-32 and further curtailment of working hours helped in keeping the price of raw jute steady but the prices of manufactures declined owing to lack of demand. In 1932-33, the average price of jute proved to be substantially lower, being Rs. 28-0-9 per *pucca* bale, which was mainly due to increase in the production of jute. The export of jute goods, however, improved and the average price of 9 porters was Rs. 8-11-9 per 100 yds. (367, 368)

146. Although it was thought that the lowest point of the depression had been reached in 1932 disturbed conditions continued to prevail in many consuming markets in 1933-34. Thus, lack of enquiries from abroad, coupled with increase in jute production, was mainly responsible for further weakness in raw jute prices. Hessians, however, improved, but heavy cees continued on the down grade. (369)

147. The gradual release of sealed looms in India resulted in a greater consumption of jute during 1934-35. Besides, the announce-

ment of Bengal Government regarding the restriction of crop in 1935-36 contributed in imparting a firm tone to raw jute prices. But certain economic and political factors caused a drop in the rates of hessians, though the price of sacking advanced for the first time since 1929-30. (370)

148. The jute crop in 1935-36 decreased owing to adverse weather conditions and voluntary restriction of the crop. Moreover, all looms were released and working hours were also increased, as a result of which *pucca* bales rose to Rs. 34-5-11. On the other hand, owing to uncontrolled production and unrestricted competition among mills, a downward tendency was again noticeable in the prices of manufactured goods. (371)

149. In 1936-37, the crop increased by about 33 per cent., but as the mills in India worked unrestricted hours, and also because exports had improved, the average price of *pucca* bales remained almost unchanged. Further, India exported larger quantities of jute goods as a result of acceleration in the process of world recovery, but due to price war between jute mills in India the prices of jute goods touched lower levels. (372)

150. The shipments of raw jute in 1937-38, declined by over one million bales which was caused by a general set-back in trade conditions, particularly in North America. The demand for manufactured goods also fell off considerably, with the consequence that stocks of hessians were affected adversely, while heavy cees remained unchanged. (373, 374)

151. Political situation in Europe deteriorated in 1938-39, and fear of war restricted the free flow of trade. This caused a decline in the export of jute goods although the offtake of raw jute improved slightly. Restriction of working hours, and the first sandbag order placed in February 1939, however, stabilised the market and the prices advanced all round. (375, 376)

152. The season 1939-40 was a period of enormous production, large exports of jute goods, decreasing stocks and high prices. In the first two months, prospects were definitely gloomy for jute and its manufactures. An exceptionally big crop was expected, exports of raw jute had declined seriously and mills were not showing any interest. Therefore, in August 1939, working hours had to be reduced and Ordinances were promulgated, fixing minimum prices in the futures markets which checked the falling tendency of prices. But when war broke out in September and a series of sandbag orders were placed with mills, the prices of jute and manufactured goods rose rapidly. And, from 3rd November 1939, working hours were also increased to 60 per week, which was followed by further advance in rates. (377.—380)

153. During November, 1939, to January, 1940, the prices of raw jute were mainly nominal and moved up in sympathy with futures quotations. Earlier in the season, mills had bought considerable quantities of fibre at fixed maximum prices, and afterwards kept out of the market. Moreover, the shipments of raw jute were limited due to imposition of export and shipping restrictions. However, prices declined heavily all round when the delivery period for the last order of 500 million sandbags was extended on 23rd January by three months. The situation was further aggravated when the Excess Profits Tax Bill was published by the Government of India on 27th January. These two events proved to be the turning points in the movements of jute and gunny prices. The rest of 1939-40 season was, on the whole, one long period of dull trading conditions and falling market. (381—385)

154. The first half of 1940-41 season turned out to be a difficult period for the jute industry. A large crop was gathered, Continental markets were completely lost and the associated mills reduced working hours on 19th August. Thus, raw jute was affected most adversely, and prices continued to decline until December, 1940, when the market became firm as a result of the satisfactory outcome of a Conference held at Delhi between the members of the Central and Bengal Governments and the representatives of jute trade. In July and August, 1940, jute goods also remained weak, but from September onwards prices revived, which was due to the receipt of an order for sandbags, fair demand from overseas markets, reduction of hessian stocks, etc. (386—388)

155. Many factors influence the prices of raw jute and fabrics, namely, (i) demand, (ii) supply, (iii) weather reports and conditions of crops, (iv) stocks, (v) bulk-handling, and use of second-hand bags and substitutes, (vi) other economic factors, (vii) political developments, (viii) rumours and (ix) governmental measures. (389)

156. Loose jute and manufactured goods are linked together so closely that fluctuations in one affect the other as well. Moreover, the prices of raw jute are influenced not only by the demand for jute and fabrics, but also by the extent of prosperity enjoyed by industries consuming jute manufactures. Thus, the development of substitutes and bulk-handling play an important part in the determination of a country's requirements of jute goods. Further, the quantity of jute harvested and the extent of goods produced by mills directly affect the prices of fibre and manufactures. (390, 391)

157. Unfortunately weather conditions, either at the time of sowing, germination or harvesting, or during the period of growth, cause repercussions in the market. And, the condition of crops in

foreign countries as well has a direct effect on the gunny and loose jute markets. Stocks of manufactured goods in India and some important consuming countries are published monthly, but reliable figures of raw jute stocks are not available. This is unfortunate as stocks, forming part of a year's available supply, have a direct bearing on the market trends. (392, 393)

158. The futures markets connected with jute and its manufactures—the East India Jute Association and the Hessian Exchange—are very sensitive, and generally react to all the abnormal features of the various factors affecting prices. Unfortunately, on many occasions, these markets have been manipulated by various means. (394)

159. The effect of changes in demand on account of the spread of bulk-handling and greater use of second-hand bags and substitutes are not noticeable in the daily price fluctuations, as information in this connection is not received in the markets frequently enough. In addition to the principal factors mentioned above, many others of economic importance influence market quotations, both spot and futures. (395, 396)

160. Further, events of political significance in India, as well as international developments, often cause fluctuations in jute markets, particularly the futures. Rumour and fiction also play an important part in this respect, although the futures prices are more easily affected than the spot quotations. Lastly, Governmental measures, such as restriction of jute crop, control of mills' working hours, fixation of minimum and maximum prices and other executive or legislative action influence the movement of prices in jute markets. (397—401)

161. In any study of the variation of prices, the periodic seasonal fluctuations are generally the most important in their effect upon business in the course of a year. The prices of raw jute and manufactured goods during 1929-30 to 1938-39, however, showed that in those years the seasonal factors did not in general play any important role in the movement of jute prices. (402—404)

162. A few points may be mentioned in connection with fluctuations in spot and futures quotations. Firstly, the two price curves moved, on the whole, in sympathy with each other, and the 'average spread' for both *pucca* bales and hessian, calculated on the basis of weight, was the same during the seasons 1935-36 to 1939-40. (405, 406)

163. Occasionally, the differences between spot and futures prices were accentuated and curves fell out of alignment. This was most prominent in baled jute prices during 1930-31 to 1933-34 when, due to many factors, there was considerable speculative buying of jute, which created strong feeling among mills, balers and a section of jute

merchants against futures operations. As a result, the East India Jute Association agreed to alter its bye-laws in many important respects. (407—409)

164. During 1929-30 to 1939-40, the futures prices of raw jute were almost always higher than the spot rates. On the other hand, the futures prices of hessians generally remained below spot quotations. There appears to be no justification for futures to rule consistently above or below spot prices, or *vice versa*. A spot transaction is more advantageous to a buyer, as he has the complete choice of the commodity that he seeks to buy. On the other side of the scale, however, are the 'carrying costs', which include items like storage, insurance, interest, depreciation, etc. Therefore, the actual direction and size of the spread between spot and futures prices should depend on the result of these two mutually conflicting influences. (410, 411)

APPENDIX A.

Complete List of Jute Mills in India (1940).

BENGAL

Name of Mill	Year originally built	No. of Looms ¹			Remarks
		Hessian	Sacking	Total	
Adamjee	1929	703	208	911	
Albion	1910	339	159	498	
Alexandra	1905	296	150	446	
Alliance	1897	797	467	1,264	2 mills
Anglo-India	1917	1,589	972	2,561	4 "
Agarpara	1930	553	326	879	
Angus	1912	890	306	1,196	
Auckland	1908	450	360	810	
Bally	1908	659	300	959	
Bansberia	1925	1,001	708	1,709	2 mills
Barnagore	1859	1,199	690	1,889	3 "
Belvedere	1908	601	219	820	
Bharat	1935	164	56	220	
Birla	1921	982	391	1,373	
Bengal	1875	250	350	600	Old Ganges
Budge-Budge	1874	552	439	991	3 mills
Caledonian	1916	371	245	616	
Cheviot	1920	480	50	530	
Calcutta Jute Mfg.	1901	363	139	502	Old Narkeldanga
Champdany	1873	339	205	544	
Clive	1875	546	423	969	2 mills
Craig	1921	242	154	396	
Dalhousie	1905	448	318	766	
Delta	1899	458	321	779	
Empire	1913	295	205	500	
Fort Gloster	1873	1,098	786	1,884	3 mills
Fort William	1874	633	381	1,014	2 "
Gourepore	1862	962	432	1,394	2 "
Hastings	1875	661	417	1,078	
Hooghly	1883	466	254	720	
Howrah	1874	1,234	706	1,940	3 mills
Hukumchand	1922	1,524	748	2,272	2 "
India	1866	811	265	1,076	2 "
Kamerhatty	1877	1,250	547	1,797	2 "

1. cf. *Jute Statistics, (1940-41)* published by Messrs. J. Thomas & Co.

Jute Mills in India.

BENGAL—(Contd.)

Name of Mill	Year originally built	No. of Looms			Remarks
		Hessian	Sacking	Total	
Kankinarrah	1884	1,239	288	1,527	2 mills
Kedernath	1932	219	1	220	
Kelvin	1908	394	309	703	
Khardah	1895	914	616	1,530	2 ..
Kinnison	1897	675	575	1,250	2 ..
Lansdowne	1898	488	443	931	
Lawrence	1907	456	384	840	
Lothian	1917	261	297	558	
Ludlow	1920	546	300	846	
Luxmi	1875	365	85	450	Old Belliaghatta
Megna	1922	840	168	1,008	2 mills
Mafatlal Gagalbhai	—	400	220	620	
Naihati	1907	414	401	815	
Naskarpara	1933	333	92	425	
National	1900	573	279	852	
New Central	1875	439	270	709	
Nafar Chandra	1937	92	53	145	
Northbrook	1908	352	215	567	
Nuddea	1921	644	448	1,092	2 mills
Orient	1920	551	50	601	
Prabartak	1941	50	—	50	
Premchand	1929	364	240	604	
Presidency	1921	238	162	400	
Reliance	1908	924	352	1,276	
Samnuggar	1874	1,485	528	2,013	3 mills
Societe Generale Industrielle de Chandernagore	1895	409	198	607	Old Gondolpara
Soorah	1874	201	200	401	
Standard	1896	367	283	650	
Sri Mahadeo	1937	136	34	170	
Sri Luchminarain	1936	375	125	500	
Sri Gouri Sanker	1935	152	24	176	
Sri Hanuman	1930	803	177	980	
Sri Ganesh	1932	1	35	36	
Tittagarh	1884	1,198	596	1,794	2 mills
Union North	1874	300	219	519	
Union South	1898	440	367	807	
Victoria	1884	998	333	1,331	2 mills
Waverly	1921	306	159	465	
Wellington	1855	448	408	856	
Total	—	42,596	22,631	65,227	

Jute Mills in India.

OUTSIDE BENGAL

Name of Mill	Year originally built	No. of Looms			Remarks
		Hessian	Sacking	Total	
Nellimarla	1919	55	261	316	Nellimarla, Madras
Chitavalsah	1926	124	376	500	Vizianagram, ..
Krishna Jute & Cotton	1927	25	116	141	Ellore, ..
Sree Bajrang	1929	—	68	68	Guntur, ..
Katihar	1934	44	176	220	Katihar, Bihar
R. B. Hurduttroy Motilal Jute Mills	1934	50	400	450	Katihar, ..
Biratnagar	1935	—	169	169	Jogbani, ..
Rameswara	1935	—	305	305	Muckterpore ..
Raigarh	1925	25	125	150	Raigarh, Central Provinces
Mahabir	1935	—	150	150	Sahjanwa, United Provinces
Juggilal Kamlapat	1931	100	400	500	Cawnpore, ..
Mahaswari Devi	1934	29	191	220	Cawnpore, ..
Total	—	452	2,737	3,189	
Grand Total		43,048	25,368	68,416	

APPENDIX B.
Working Hour Agreements of Jute Mills in India.¹

Year	Working Hours	Limitation of Looms
1872	Up to 1872 mills worked between 6 A.M. and 5 P.M. with two breaks at 9 to 10 A.M. and 1 to 2 P.M., i.e. 10 hours a day.	—
1873 onwards	Mills worked throughout the day for 12 hours under a crude system of relieving squads.	—
1886 From 15th February onwards	The first agreement for six months dating from 15th February was subsequently renewed at intervals without a break for 5 years up to 15th February, 1891. During these 5 years the extent of the short-time varied between 4 days a week, 9 days a fortnight and 5 days a week. The exceptions to this agreement were Hooghly and Serajgunge Mills.	An important feature of the agreement was an undertaking by the parties not to increase their spinning power during the currency of the agreement. Beside short-time working, 10% of the sacking looms were shut down for a short period in 1890.
1895	Electric light came into general use from this year and regular multiple shift system of working was followed, machinery working for 15 hours per day.	
1899 1st April onwards	A six months' agreement came into force on 1st April 1899, but it lasted for 2 months only.	In some cases over 25% of the machinery was rendered idle for lack of workers owing to outbreak of plague.

1. Regular and detailed information is available since March 1921 only.

Note—Indian Jute Manufacturers Association was founded in 1884 ; the name was changed to Indian Jute Mills Association in 1902.

APPENDIX B (Contd.)

Year	Working Hours	Limitation of Looms
1906 From 1st January to 30th June	Mills agreed to curtail production by stopping the electric light, and worked from sunrise to sunset for 6 months, from 1st January 1906.	—
1908 15th March to 1909 30th September	Extension in some mills and establishment of new mills augmented productions to such an extent that it was found expedient to work 5 days a week.	—
1910 May to August	Due to absence of unanimity among members of the Association, short time working of 5 day week was postponed from January till April 1910. An agreement to work 5 days a week was in operation from May to August.	—
1910 1st September to 1912 30th June	The agreement to work five-day week was continued with some variations.	—
1921 1st April to 1929 30th June	Mills worked 54 hours per week (No restriction)	
1929 1st July to 1930 30th June	Mills worked 60 hours per week (No restriction)	
1930 1st July to 30th September	Mills worked 54 hours per week (No restriction)	

APPENDIX B (Contd.)

Year	Working Hours	Limitation of Looms
1930 1st October to 1931 28th February	Mills worked 54 hours per week but closed down for one week per month.	
1931 2nd March to 1934 3rd October	Mills, with certain exceptions, worked 40 hours per week.	15% of the total looms sealed up. The sealing was effected on Hessian looms of 40" reed space or over. In May 1932 the new mills were allowed to work 54 hours per week after the personal intervention of Sir John Anderson, the then Governor of Bengal.
1934 1st November to 1935 30th April	Mills worked 40 hours per week.	12½% of the total looms remained sealed.
1935 1st May to 4th August	Mills worked 40 hours per week.	10% of the total looms remained sealed.
5th August to 1936 10th November	Mills worked 40 hours per week.	7½% of the total looms remained sealed.
1935 11th November to 1936 31st March	Mills worked 40 hours per week.	5% of the total looms remained sealed up to 16th February 1936, after which they were released.
1936 1st April to 30th June	Mills worked an average of 46.28 hours per week.	—
1st July to 3rd August	Mills worked 50 hours per week.	—

APPENDIX B (Contd.)

35

Year	Working Hours	Limitation of Looms
1936 4th August to 1937 28th February	Mills worked 54 hours per week (No restriction)	—
1937 1st March to 1938 25th September	All other restrictions withdrawn and majority of mills worked 54 hours per week.	—
1938 26th September to 1939 19th February	Mills worked 45 hours per week with the excep- tion of those with 175 looms or under which were permitted to work 72 hours per week.	—
20th February to 30th July	Mills worked 45 hours per week but those having registered complements of looms not exceeding 220 worked 72 hours per week.	—
31st July to 12th September	Mills worked 40 hours per week.	Mills were required to seal the number of looms necessary to give the requisite number of loom hours on the basis of 45 hours per week with 20% hessian loom and 7½% sacking looms sealed.
13th September to 24th September	Mills worked 45 hours per week	All looms previously sealed were released.
25th September to 2nd November	Mills worked 54 hours per week (No restriction)	—

273

APPENDIX B (Contd.)

Year	Working Hours	Limitation of Looms
1939 3rd November to 1940 7th April	Mills with more than 220 looms worked 60 hours a week—others 72 hours a week. Exemption granted from the provisions of Indian Factories Act.	—
8th April to 18th August	Mills worked 54 hours per week (No restriction)	—
19th August to 31st August	Mills worked 45 hours per week	—
1st September to 30th November	Mills worked 45 hours per week with one week closed in every four.	—
December.	Mills worked 45 hours per week with second week of December closed.	—

- Sources—1. *Romance of Jute* by D. R. Wallace.
 2. *The Jute Crisis* by B. D. Bhattar and L. Nemenyi.
 3. *Reports, Indian Jute Mills Association, 1921 to 1940.*

APPENDIX C.

No. 8775-Com. dated Calcutta, 12th August, 1935.

FROM THE GOVERNMENT OF BENGAL, FINANCE, COMMERCE
AND MARINE DEPARTMENTS,

To—The Indian Jute Mills Association.

I am directed to refer to your letter No. 1559 of 26th July, 1934. In that letter the Association drew the attention of the Government of Bengal to the very serious consequences that would follow any break-down in the existing arrangements for the restriction of jute manufactures and enquired whether Government would be prepared to support a proposal to give statutory force to the terms of the arrangement regarding working hours, extensions, etc., which exists at present between the members of the Association and between the Association and certain outside mills and to make them applicable to all jute mills situated in Bengal.

The Association's proposal has been most carefully considered by the Government of Bengal and the Government of India and the decision which has been reached is that Government are unable to support the proposal put forward by the Association for the restriction of the output of jute manufactures by legislative action. The reasons for this decision and the conclusions arrived at by Government are embodied in the enclosed memorandum.

* * * * *

Memorandum.

1. The basic fact from which arguments both for and against restriction must start, is that the potential capacity of the jute mills for production is greatly in excess not merely of the present demand but of any possible demand that need be considered. The production of manufactured goods is at present somewhat below the figure for the years immediately preceding the war. In the interval, leaving out of account any increase in efficiency, the capacity has been increased by an addition of about 60 per cent. to the number of jute mills, of about 90 per cent. to the number of looms and about 60 per cent. to the number of spindles. Even in 1912-14 the mills were working for about half the possible weekly hours, and the machinery then in existence was capable of meeting a substantially higher demand than India had known before or has known since. To-day the disparity between actual and potential is immense. The existing demands could possibly be supplied by a quarter of the machinery now available, and the highest demand ever reached so far could probably be satisfied by a third of the existing mills.

2. This situation has been met not by any reduction in the number of enterprises, but by restricting production in such a fashion as to keep as many mills working as possible and to secure for them a price dependent for its maintenance on that restriction. The consumers of the goods are, in fact, being asked to provide profits on an amount of capital far in excess of the needs of the industry and at the same time to defray the extra charges involved in the maintenance of many unnecessary mills. Moreover, the level of profits so secured acts as a constant temptation to fresh enterprise, so that the threat of new mills or of a breakaway on the part of existing mills suffices to induce something approaching panic among many of those in the industry. The position is, in fact, completely unstable.

3. The solution proposed by the manufacturers, namely, imposition under statute of restrictions on the productive capacity of the mills, is designed to continue, temporarily or permanently, this state of affairs, and is open, in view of the Government of India, to serious objection. They regard it as opposed to the true interests of the community and not calculated to secure the best interests, in the long run, of even the jute industry itself.

4. So far as the jute mills themselves are concerned, the Government of India recognise that restriction, by securing an artificially high price for the manufactured product, produces much higher profits for the time being than would be secured by free competition, and that it probably enables a number of mills which would otherwise close down to continue in profitable operation. But in the long run the effects are less happy. The industry depends mainly on exporting its products, and is in competition abroad with foreign manufacturers who are not subject to the agreement and would not be subject to any Indian legislation. The effect, therefore, of measures which curtail Indian production and secure a higher price than free competition would yield, is to give a competitive advantage to manufacturers abroad. It is significant that between 1932-33 and 1934-35 there has been a big increase in the amount of raw jute exported and an extremely small increase in the amount of Indian manufacture, indicating that while Indian manufacture has been restricted foreign manufacturers have secured the bulk of the increased world demand. Further the maintenance of a high price for the product tends to encourage the use of and the search for substitutes ; this tendency is already evident.

5. The prime need of the industry, in the view of the Government of India, is better organisation. If the industry were prepared to rationalise itself by concentrating production in a limited number of mills securing adequate use of their machinery, and were content with reasonable profits on that amount of capital which is necessary to

meet the demand, the results would be far-reaching. The consequent reduction in the price should enable the industry to recapture a larger share of the foreign market for manufactured goods. It would provide the best possible insurance against the use of substitutes for jute products. It would afford a much-needed incentive to increased efficiency and technical progress. And it would remove the constant threat of a severe fall in prices, which might result from the starting of new mills or from a breakaway from the agreement. Entrepreneurs would be reluctant to enter a field consisting of established mills organised to face competition, for the possibility of gaining an advantage by a resort to long hours would have disappeared. Unfortunately, since the present agreement was reached in 1932, the industry appears to have taken no steps to place itself in a more stable position ; and the solution suggested by the industry so far from offering any guarantee of reorganisation, would tend to postpone it.

6. Passing to the effect on the cultivators, the Government of India believe that the existing agreement and the previous agreements have been directly opposed to their interests. They have always recognised the possibility that a serious disturbance of the market might have, for the time being, adverse repercussions on the cultivators' position. The cohesion among the jute manufacturers and the large stocks they carry place them in a strong position ; and a crisis which resulted in curtailing purchases from the cultivators might result in serious loss to them. But in the long run the latter stand to gain from an increased demand for their product, and even a time of resort to freer competition would not, in present circumstances, be likely to injure them. For the immediate effect would probably be a substantial rise in production, and the effect on the prices of raw jute of the increased demand for it would be enhanced by the recent reduction in the crop.

7. The Government of India recognise that if a period of keen competition was followed by a crisis involving the closing of some mills, the cultivators and other interests would probably suffer for the time being. For there would probably be a reduction in the demand for raw jute, and there would be other repercussions on the economic life of the presidency. But the cultivator is no better off under a policy of restricted production, which tends to reduce the demand for his product over the whole period of its operation. The price he receives for his crop is affected by the demand for jute and depend ultimately on the relation between the supply and the world demand. In the view of the Government of India, it is a fatal objection to the manufacturers' proposals that under them the interests of the cultivators and of the other parties affected would receive no statutory protection. If any legislation were undertaken for the benefit of the manufacturers,

provision for the safeguarding of the cultivators would have to be an essential element in it.

8. Nor are the cultivators the only class who would gain from increased production at more economical rates. Restriction of production means restriction of employment. The numbers employed in the jute mill industry have been greatly reduced in the last few years and only a part of this reduction can be attributed to the replacement of child labour by adult labour and other administrative improvements. Further, the reduced numbers employed have been obliged to work for reduced hours, and there is little indication of their having appreciably benefited from the improvement in the mills' position in the last two years. In short, the re-organisation of the industry on stable and healthy lines would be of advantage to all interested in it and to the community as a whole.

9. The question has hitherto been discussed as an isolated one ; but the Government of India cannot overlook the fact that if they agreed to restrict production for the jute manufacturers, those engaged in other industries could claim similar assistance. There are very few industries in which potential production is not greatly in excess of actual demand, and in which a measure of protection from internal competition would not result in temporary benefit to the capitalists concerned. Moreover, many industrialists could plead that they had a stronger case than the jute manufacturers, as they are virtually unorganised and it would be difficult to justify the limitation of such assistance to one of the most strongly organised industries in India. It is true that statutory assistance has already been given to restrictive schemes for certain primary products, but the restrictions have been designed solely with a view to exports and have been consequent to international agreement.

10. To sum up, the Government of India recognise that the present position of the jute manufacturing industry is unsatisfactory. If the industry were able to formulate a scheme for its rationalisation, and felt the need, for the satisfactory inception of the scheme, of legislation, they would be willing to consider the introduction of such legislation and the inclusion in it, if necessary, of temporary restriction on the erection of new mills or other activity. But their consent would in any case be subject to the following conditions:—

- (1) that the scheme of rationalisation had the approval of a substantial majority of the mills, and was regarded as satisfactory by Government, and
- (2) that the interests of the community in general and cultivators in particular were adequately protected.

* * * * *

APPENDIX D.

Different Sizes and Weights of Hessians.

HESSIANS

Size & Weight	Porter & Shot	Packing
40" x 8 oz.	9/10	I/B. 2000 Yds.
40" x 7½ "	9/9	" " "
40" x 7 "	8/9, 9/8	" " "
40" x 8½ "	9/10	" " "
40" x 9 "	9/10	" " "
40" x 9½ "	10/11, 11/10	" " "
40" x 10 "	11/12	" " "
40" x 10½ "	11/12	" " "
45" x 11 "	11/12	" 1000 "
50" x 10 "	9/10	" " "
40" x 12 "	11/12	" 2000 "

HESSIANS BAGS

Size & Weight		Porter & Shot	Wgt. per bag i
56" x 28 Hd.	Ex. 8 oz./40	9/10	17.88
54" x 28 "	" 8 oz./40	9/10	17.26
54" x 27 "	" 8 oz./40	9/10	16.65
49" x 27 "	" 8 oz./40	9/10	15.15
59" x 30 "	" 8 oz./40	9/10	20.16
49" x 30 "	" 8 oz./40	9/10	16.83
47" x 30 "	" 8 oz./40	9/10	16.16
50" x 26 "	" 8 oz./40	9/10	14.87
48" x 26 "	" 8 oz./40	9/10	14.3
58" x 33 "	" 7½ oz./40	9/9	20 oz.
do "	" 10½ oz./40	11/12	28 "
49" x 27 "	" 9½ oz./40	11/10, 10/11	18 "
40" x 22½ "	" 8 oz./40	9/10	10.375

APPENDIX E.
Different Sizes of Gunny Bags.

Name	Size	Weight	Porter & Shot	Packing	Stripe
A. Twill	44" x 26½"	2½ lb.	8/9	300/4 pc.	3 Blue stripes.
Liverpool Twills	do	2½ "	8/8	250/3 "	3 do do
No. 2 Twills	do	2½ "	6/8, 6/9	300/4 "	3 do do
B. Twills	do	2½ "	6/8	300/4 "	3 Blue dry sewn.
do	do	2 "	6/7	300 "	3 do do
Cuban Sugar Bags	48" x 29"	2½ "	7/9, 8/8	400 "	2" Blue dry sewn.
do do	50" x 30"	2½ wip.	7/9, 8/9	400 "	2" Blue T. S.
Egypt Sugar Bags	48" x 28"	2½ lb.	6/8	400 "	2" Blue or Magr. T. S.
Sugar Bags	do	3/3½ "	8/9	250 "	2" Blue or Pl. T. S.
Egypt Daira Twill Bags	42" x 29"	2½ "	8/8, 6/8	500 "	2" Blue red, P.
Coffee Twill Bags	45" x 30"	3½ "	6/8	250 "	Plain.
do do	40" x 28"	2½ "	8/8	300 "	2" B. 4 Red Blue.
do do	do	3 "	8/9	300 "	P. 2" bl. Seam sewn.
Australian Corn Sacks	41" x 23"	2½ "	8/9	300 "	Plain.
do Old do	44" x 26½"	2½ "	8/9	300 "	3 Blue.
New Zealand Sacks	48" x 26½"	2½ "	8/9	250/3 "	3 Blue.
English Twill Sacks	53" x 27"	3 "	8/8	250 "	3 Blue or plain.
Egypt Grain Sacks	60" x 30"	5 "	8/9, 6/8	200 "	2" Magt. Tar sewn.
do do	do	4/3½ "	8/9, 8/8	250 "	2" do do
do do	do	3½ "	6/8	250 "	2" do do
Wool Packs Dump	42" x 27" x 27"	11½ "	8/8	50 "	Plain ¼" Red.
Australian Wool Packs	54" x 27" x 27"	12 "	8/9	50 "	do do
Sydney do	do	11½ "	8/9	50 "	do do
do do	do	11½ "	8/9	50 "	do 2" Blue.
Cape Wool Packs	do	10 "	8/9	50 "	do ¼" Red.
Chaff Packs	do	5/5½ "	5/6, 5/7	100 "	do or 3 Blue.
do	do	6/6½ "	5/7	100 "	do do

Name	Size	Weight	Porter & Shot	Packing	Stripe
Twill One Pocket	27" x 19"	20 oz.	8/9	500/8 ..	do Tar Sewn.
do do	30" x 20"	24 ..	8/9	500/8 ..	do do
do do	do	28 ..	8/9	500/8 ..	do do
Cement Bags	33" x 23"	28 ..	8/8	500 ..	Plain.
do	36" x 22"	30 ..	8/9	500 ..	do
Onion pockets	40" x 26½"	12 lb.	9/10	1000 ..	3 Blue T. S.
Wheat Bags	38" x 22"	12 oz.	11/12	1000 ..	Plain.
Australian Bran Bags	49" x 30"	20 ..	11/12	600 ..	do
English do	49" x 27"	18 ..	11/11	1000 ..	do
Fiji Pockets	36" x 22"	16 ..	11/15	800 ..	do
Cotton Pack	85" x 45"	3 lb.	9/10	250 ..	do Tar Sewn.
Heavy C. Bags	40" x 28"	2½ ..	8/9	400 ..	Plain.
do do	do	2¼ ..	8/9	400 ..	2" Blue.
do do	48" x 29"	2¼ wip.	8/9	400 ..	2" Green.
C. Bags	40" x 28"	2½ lb.	8/9	400 ..	Plain or 2" Blue.
Light C. Bags	do	2 ..	7/9, 8/8	400/5 ..	do do
E. Bags	do	1½ ..	5/8	400/5 ..	do do
do	40" x 29"	1½ ..	5/8	400/5 ..	do do
Light E. Bags	40" x 28"	1½ ..	5/7	400/5 ..	do do
Nitrate E. Bags	35" x 26"	1½ wip.	5/8	500/6 ..	do do
K. Bags	40" x 28"	1½ lb.	6/8	500 ..	do do
D. W. Flour bags	56" x 28"	2½ ..	8/8, 7/9	300/4 ..	Plain Red, Blue.
do Salt Bags	45" x 26"	1½ ..	6/8	500 ..	3 Blue.
do do	do	2 ..	6/8	500 ..	3 do
do Nitrate Bags	33" x 24"	25 oz.	8/8	600 ..	Plain.
do Potato do	38" x 28"	2½ lb.	3/7	300 ..	do
Grass Seeds Bags	58" x 33"	1½ ..	9/9	500 ..	do Tar Sewn.
do do	do	1½ ..	11/12	500 ..	do do

APPENDIX F.

Amended 15th March, 1936

CALCUTTA JUTE FABRICS SHIPPERS ASSOCIATION

Standard U. K. Jute Goods Contract Form, 1935

.....193

Messrs.....
.....

Dear Sirs,

We have this day you, subject to the conditions endorsed hereon,

about (Yards/bags) as under:— 1

Description

Size

Weight

Porter & Shot

Hemmed or Unhemmed

Stripped or plain

Packing, make up

Sewing

Price % Yds./bags

Quality at time of shipment guaranteed to be fair average Calcutta standard make, weight, size, porter and shot.

Shipment from Calcutta by steamer and/or steamers and/or power vessel and/or vessels, direct and/or indirect, with or without transshipment to.....

Cost, Freight and Insurance (the latter to be with particular average, including sweat and fresh water damage, and to be for a sum representing gross invoice amount plus 10%.....average to be payable if amounting to 3% on each bale as if separately insured or on the whole). Insurance to include war risk. Any expense for covering war risk exceeding ½% to be on account of buyers' Export duty based on current rates ; any alteration to be on buyers' account.

Payment:—

.....
.....

Upon the terms and conditions as detailed on the reverse:—

(Terms and Conditions Item 1 to 20 not printed)

APPENDIX G.

Particulars relating to Consular Charges to vise Documents relating to the Exports of Goods to their Respective Countries.

America.

The fee for a consular invoice issued either in triplicate or quadruplicate \$2.50 and for each certified extra copy a charge of \$1.00 is made. For certificate covering shipments of American goods returned to the United States a fee of \$1.00 is charged. There are a number of special certificates which are occasionally issued in connection with the shipment of such goods as seeds, fertilizers, hide fleshings, hides and skins, and a number of other commodities, and for these there is no charge if the merchandise is covered by a consular invoice. If the merchandise is not covered by an invoice there is, in most cases, a charge of \$1.00 for this service.

These are the only regular charges made in connection with the shipment of merchandise to the United States, though it sometimes happens that shipper wishes to make an affidavit regarding a particular shipment or the circumstances surrounding the same, and for administering an oath a charge of \$2.00 is made. All fees collected by this Consulate-General may be paid either in American currency or in rupees at the current rate of exchange.

Argentine.

It is necessary for shippers to present to this Consulate for legalisation before the sailing of the relative vessel the following documents in connection with all shipments to Argentine:—

1. Three stamped and two unstamped bills of lading signed by the steamer agents,
2. Four consular invoices signed by the shippers,
3. Four commercial invoices signed by the shippers. Consular fees payable:—

	Rs. As. P.
1. For legalising each set of 3 stamped bills of lading ...	18 0 0
2. For each set of consular and commercial invoices:—	
Up to £200 in value	3 0 0
From £200/£1,000 in value	6 0 0
From £1,000/£2,000 in value	9 0 0
Over £2,000/- in value	12 0 0
Additional copies:—	
Each additional stamped bill of lading	4 8 0
Each additional commercial invoice	12 0 0

Late fee.—Ordinarily documents are returnable on the day following the date of presentation. If, however, documents are required to be legalised and delivered on the same day, the extra fee per set is Rs. 10-12-0.

Belgium.

The consular fees for the vising of documents relating to exports of goods from India to Belgium are not necessary except the bill of health.

Bolivia.

Below are particulars of the respective Consular charges for vising of documents etc. in connection with this Consulate:—

Legalization of consular invoices—6% of the f.o.b. value of the merchandise.

Legalization of power, documents and account sales—Rs. 5-0-0 (7/6d.) each.

Consular invoice forms Rs. 8-6-0 (12/6d. set of 5).

For each consular invoice form Rs. 1-11-0 (2/6d.) each.

Legalization of other documents or extra copy of consular form Rs. 5-0-0 (7/6d.) each.

The consular fee for legalising consular invoices is 6% of the f.o.b. value of the merchandise, plus the cost of packing (but not including freight, insurance and shipping charges). 2½% of this 6% fee is collected by this Consulate.

Bolivian consular invoices are necessary in respect of all goods shipped to Bolivia also for goods despatched by parcel post when the value of the whole sending to Bolivia exceeds Bolivian 100.

Brazil.

The current fees charged by this Consulate for legalizing consular invoices in accord with the declared value of merchandise, excluding the freight and other charges, are as follows:—

Invoices of the value inferior to American \$25.00—Gratis.

Invoices of the value up to American \$1000.00—4\$000 (i.e. milreis gold).

For every additional \$500.00, or fraction thereof—1\$000 (i.e. 4. mileis gold).

Legalisation of Commercial invoices—Gratis.

Legalization of other documents for banking transactions—Gratis.

Exchange rate—Rupees 4/- per milreis—1\$000 gold).

Invoices will be accepted during working hours only and will be returned 24 hours after presentation.

Office hours—

10 A.M. to 3 P.M. week days.

9 A.M. to 12 noon Saturdays.

China.

A Chinese Consular Invoice is required to accompany any shipment of merchandise to China the value of which exceeds Rs. 180 F.O.B. The fee of certification for such invoice is Rs. 9-14-0. This fee may be subjected to alteration every three months.

Cuba.

Particulars of the Cuban Consular tariff governing documents covering exports of goods to Cuba.

Despatch of ships to Cuba.

Art: 1.—For the despatch of any vessel national or foreign, destined to Cuba, the charge should be the following:—

(a) Vessels of less than 100 tons net	...	U. S.	\$ 10.00
(b) Vessels of 100 tons net or more	...	U. S.	\$ 15.00

When vessels take freight or passengers to Cuba, they should also pay:—

In the part of origin for each 100 tons net or fraction up to 5,000 tons	...	U. S.	\$ 1.00
In all others ports of schedule for each 100 tons net or fraction up to 5,000 tons	...	U. S.	\$ 0.50
There should also be paid for each 100 thousand Ks. or fraction of 100 thousands Ks. of cargo shipped to Cuba on each port; according to manifest of the same	...	U. S.	\$ 1.00

Visae of consular invoices and bills of lading:—

Art: 21.—The total value declared in the consular invoice is reduced to U. S. \$; and on this reduction	...	5% is charged.
Art: 22.—Any copy of consular invoice duly legalised	...	U. S. \$ 0.50
Art: 22A.—Visae of set of Bill of Lading corresponding to consular invoice	...	U. S. \$ 1.00

Administrative Proceedings:

Art. 30.—For attesting of the signature in any kind of documents to have an action in Cuba	U. S. \$ 3.00
--	---------------

Ecuador.

The following documents are required in the case of shipments to Ecuador.—

1. *Consular Invoices.*—One set consisting of one original and 5 copies for each B/Lading, the cost of which is As. 0-9-0 per set. Of these only the original is returned to the shipper. If additional legalised copies are required, a fee of Rs. 2-8-0 per copy is payable. The fee for legalising Consular Invoices is 5% of the f.o.b. value of the goods and is payable by the shipper on presentation of the documents.

2. *Consular Manifests.*—A set consisting of one original and 5 copies must be taken out by the Steamship Co. or their Agents which may cover the whole shipment going forward in one steamer. The cost of each set is As. 0-9-0. The fee for legalising the document is 1½% of the f.o.b. value of the goods and is payable by the Steamship Co. or their Agents on presentation of the documents.

3. *Certificate of Origin.*—One set consisting of one original and 2 copies must be taken out for each B/Lading which is to be certified by the Chamber of Commerce first and then by this Consulate. The fee for legalising this document is Rs. 6-0-0 only.

Siam.

The following is the list of the fees at present charged by this Consulate:

For the purpose of conversion, 2.22 Baht=1 W.S.A. dollar, and for the rate of exchange between U.S.A. Dollars and local currency the daily quotation may be taken.

Table of fees levied at Siamese Legations and Consulates.

Fees	BAHT	U.S.A. Dollars. Bt. 2.22 = \$ 1.
1. For legalising a document: The legalisation of more than one signatures on the same document shall be considered as only one legalisation	4.00	1.8
2. For certified copies of any kind of document for each document or for each page of at least 20 lines	1.50	.68
3. For making or verifying translations of documents of any kind: for each document or for each page of at least 20 lines	3.00	1.35
4. For attesting a Power of Attorney	4.00	1.8
5. For drawing up a Power of Attorney, if not exceeding 200 words	6.00	2.7
If exceeding that number, for every subsequent 100 words or fraction thereof	4.00	1.8

APPENDIX H.

Jute Goods consumed in India, their uses and centres of distribution.

Province	Commodities or articles for which jute goods are used as containers	Types of bag and cloth	Distributing centre
Assam	Rice, maize and pulses Tobacco Tea General packing	E. Bags, Heavy Ceas and B. Twills. B. Twills bags and E. Cloth bags. B. Twill and E. Cloth for wrapping chests. Withering cloth for drying leaves. Hessians as above. Tarpaulin and canvas.	Calcutta sends practically all goods required to the larger markets for distribution. In the case of cloth for tea gardens it is consigned direct. There is no larger distributing market in the province.
Bengal	Rice and pulses Tobacco and chillies Mustard Tea Salt General packing	E. Cloth, B. Twills and Heavy Ceas. E. and B. Twill cloth. D. W. Bags and B. Twills. E. Cloth and Withering cloth. D. W. Salts. Hessians of above sizes, tarpaulin and canvas.	Calcutta supplies direct to any market. Small stocks are held at many towns for retail sale in villages. Large consumers obtain their supplies direct from Calcutta mills or dealers.
Bihar	Sugar Wheat, maize and pulses Rice Tobacco General packing Cement	A. Twills and Sugar bags. B. Twills and Heavy Ceas. E. Bags and B. Twills. E. Cloth and B. Twill cloth. Hessians as above.	A fairly high percentage of the goods used are made by the mills in this province. Calcutta supplies cloth and certain bags but not in great quantity. The principal distribution point is Katihar at which two mills are located.
Sind and N. W. F. P.	Wheat and pulses Groundnuts Cotton seeds General packing Carpet packing	A. and B. Twills. Hessian bags and B. Twills. B. Twills. Hessians as above. Yarn of various weights.	Karachi is the main centre for the receipt and distribution of jute goods. Practically all supplies are sent by sea from Calcutta.
Punjab	Wheat and other cereals Oilseeds: linseed and cotton Sugar Fine rice Carpets and rugs General packing—piece goods Silk and small articles	D. W. Bags 40 to 48 x 28. B. Twills and Heavy Ceas. A. Twills and Sugar Bags. A. and B. Twills. Yarn 10 to 12 lb. Twine. Hessian 40" to 50" in 7½ and oz. 40. " 40" to 45" in 10½ oz. 40. Canvas.	Lahore is the principal market in this area, but a considerable quantity is despatched direct from Calcutta and Cawnpore to the smaller centres and mills.
United Provinces	Wheat, maize and other cereals Oilseeds: mustard, linseed & cotton Sugar General packing Carpets and Durries Tobacco	D. W. Bags—40 to 48 x 28. Heavy Ceas and B. Twills. A. Twills and Sugar bags. Hessian 40" to 50" in 7½ and 8 oz. 40". " 40" to 45" in 10 oz. 40". Hessian—size from 39" x 19" to 32" x 22".	Cawnpore mills provide a fairly large percentage of this province's requirements. Calcutta supplies direct and through agents in the larger towns.
Bombay Presidency and South West India	Wheat, jowar, bajra, maize and other cereals Chillies Oilseeds: cotton, linseed, mustard Salt Sugar Tobacco Groundnuts General packing	D. W. Bags 40" to 48" x 28" wide. A & B Twills. B. Twills and Heavy Cee bags D. W. Salt bag. A. Twills and Sugar bags. B. Twill cloth & bags & E. Cloth. Hessian bags. Hessian 40" to 40" 7½ and 8 oz. 40. " 40" to 45" 10½ oz. 40	Bombay is the centre for distribution. The bulk of goods being sent here from Calcutta by sea-route.
Madras Presidency and South East India	Rice Groundnuts (when bags used) Tobacco Salt General packing	E. Bags and Heavy Ceas. K. Bags and cotton packs. B. Twills, C. Bags and E. Cloth. D. W. Salt bags.	Madras is the principal point at which Calcutta made goods are imported and distributed. The mills in that area supply a fairly high proportion of the provincial requirements.
Central Province and Berar	Wheat, maize and other cereals Oilseeds: cotton, mustard, linseed Sugar General packing Cement	D. W. Bags and B. Twills. B. Twills and Heavy Ceas. A. Twills and Sugar bag. Hessians as above.	The bulk of jute goods consumed in this area sent direct to the small markets for sale and distribution or to the mills, by rail from Calcutta. Nagpur is the largest town and some stocks are held there by dealers.
<i>Indian States¹</i>			
Hyderabad	Wheat Rice Jowar Linseed Groundnuts Sugar Gur Cotton Cement	D. W. Flour bags. B. Twill bags. No. 2 Twill bags. Hessian cloth (60 in. wide).	Wholesale merchants, mills and factories receive their supplies from Calcutta through their own agents. Stocks are maintained at Hyderabad, Aurangabad, Jalna and Raichur by the wholesale merchants and distributed into other consuming centres from these places.
Baroda	Rice Sugar Cotton Tobacco products	D. W. Flour bags. Liverpool Twill bags. Heavy Cee bags Hessian cloth	There does not exist any direct business between the State and manufacturing centre and the required jute goods are imported from Bombay. Big stocks are maintained by the wholesale dealers in Baroda from where the goods are distributed.
Mysore	Rice Pulses Coffee Sugar Copra	D. W. Flour bags E. Bags B. Twill bags. Liverpool Twill bags	Gunny bags and cloth are imported from Nellimurla, Vizianagram and Calcutta into the State and the wholesale dealers maintain their stock at Mysore and Krishnarajnagar from where they are distributed into the consuming centres.
Patiala	Jowar Gram Mustard Chillies Sugar Cotton	D. W. Flour bags B. Twill bags A. Twill bags Liverpool Twill bags Hessian cloth (45 in. wide and weight 9 oz. per yd.)	Supplies are received from mills located in Calcutta and Cawnpore through agents and stocks are held by wholesale dealers at Patiala from where the goods are distributed.

1. Information for other States is not available.

Fees	BAHT	U.S.A. Dollars.
		Bt. 2.22 = \$ 1.
6. For attesting the execution of a will ...	6.00	2.7
7. For drawing up a will, if not exceeding 200 words ...	10.00	4.5
8. If exceeding that number, for every subsequent 100 words or fraction thereof ...	6.00	2.7
9. For certificate for a persons's identity ...	4.00	1.8
10. For uniting documents and attaching consular seal to the fastening ...	2.00	.9
11. For each consular seal affixed to a document, packed or article when no signature is required ...	2.00	.9
12. For issuing a certificate of origin and other certificate or declaration of a similar nature ...	4.00	1.8
13. For issuing or certifying a Bill of Health ...	5.00	2.25
14. For fixing consular signature and seal if required to a ship's manifest ...	8.00	3.6
15. For granting a provisional certificate or nationality to ship ...	10.00	4.5
16. For legislation or attestation, if required, for the clearance inward and outward of a vessel ...	2.00	.9

For issuing:—

	Rs.	As.	P.
Ordinary Visa valid 1 year	5 5 0
Transit Visa valid 1 year	0 10 0

APPENDIX I.
Jute substitutes and competitors

(a) VEGETABLE FIBRES

Scientific Name	Popular Name	Where grown and developed	Uses and other important features
1. <i>ABROMA AUGUSTA</i>	—	British Uganda	Experiments are in progress to make it suitable for commercial uses.
2. <i>ABUTILON AVICENNÆ</i>	Manchurian Jute	Manchuria (China)	This fibre is similar to Sisal, but as yet not produced in a form comparable to jute yarn, though experiments are proceeding.
3. <i>AGAVE FURCRÆ</i>	Fique or commonly known as Cabuya	Colombia	Resembles Sisal and used for making cordages, coffee sacks, packing cloth and the upper parts of shoes. An important competitor.
4. <i>AGAVE SPEC.</i>	Sisal	Dutch East Indies, Bahamas, Mexico, Haiti, Philippines, East Africa, New Zealand and Morocco.	Used for binder twines, all types of cordage, ropes and heavy bagging. An important competitor.
5. <i>AGAVE FOURCROYIDES</i>	Henequen	U. S. A., Canada.	Is used alone or mixed with Sisal to make all classes of ropes and twine. Very strong.
6. <i>ANTHISTIRIA GIGANTA</i>	Ulla grass	India (U. P.)	Replaces jute to some extent as a packing medium.

Scientific Name	Popular Name	Where grown and developed	Uses and other important features
7. <i>BEMERIA NIVES</i>	White leaved Ramie (China grass)	China, Formosa, Java, India, Italy, Brazil, Australia.	Ramie is stronger than jute or flax and is used for fine twines, tapestries, linings of many types, canvas, sail cloth and other fabrics.
8. <i>BEMERIA TENACISSIMA</i>	Green leaved Ramie or Rhea		
9. <i>CANNABIS SATIVA</i>	Hemp (Ganja in India) (Canapa in Italy)	India, Italy	Its use is limited in India to twine and rope-making. Produced on a large scale; is being used as a substitute for jute. A serious competitor.
10. <i>CEPHALONEMA POLYANDRUM</i>	Punga	Belgian Congo	Used commercially as admixture with other fibres including jute by Belgian spinners. May be developed and become a serious competitor to jute.
11. <i>COCOS NUCIFERA</i>	Cocoanut fibre	Indo-China	Used to manufacture bags to export rice and other cereals.
		India	Extensively used in making mats, ropes, carpets, etc.
		France	Attempts were being made to produce bags from this fibre which was imported from the West Indies and Dutch East Indies. It is reported that the bags produced were considerably stronger and very much cheaper than those made from jute. A serious competitor.

Scientific Name	Popular Name	Where grown and developed	Uses and other important features
12. CROTOLARIA JUNCEA	Sun Hemp	India	Used for cordage and ropes of many types.
HIBISCUS CANNABINUS	Kenaf	Manchukuo (China)	At present only heavy coarse cloth can be produced, but experiments are proceeding.
	Brown Hemp (Bimli Jute)	South Africa	Still under experiment and has not yet been used commercially.
	Canamo de la India (Indian Hemp or Bimli Jute)	Peru (South America)	It is understood that mills to manufacture twine and bags—may be erected in the near future. A serious competitor.
13. GOSSYPIUM SPEC.	Cotton	U. S. A.	The next serious competitor to jute amongst all fibrous plants. Attempts are continually being made to enlist Governmental aid in U. S. A. to promote the use of cotton at the expense of jute and recently, specially prepared fabrics were demonstrated showing the superiority of cotton over jute for such purposes as (i) lining and reinforcing materials for canals and ditches, (ii) covering for fruit during ripening period and curing processes, (iii) roofing and side wall materials in building construction, (iv) road surfacing fabrics and (v) as linoleum backing, in addition to ordinary containers for all classes of produce.

Scientific Name	Popular Name	Where grown and developed	Uses and other important features
14. HIBISCUS BIFARCATUS	—	Brazil (South America)	Cloth is prepared from this fibre and it is reported to be more resistant and hard wearing than jute.
15. HIBISCUS CANNABINUS	Mestha (Bengal) Java jute. (Java)	India, Java	Used in admixture with flax and hemp for the manufacture of cloth, ropes and cordage.
16. HIBISCUS ESCULANTUS	Hibiscus fibre	Salta (U. S. A.)	Has been used successfully in the manufacture of yarn and cordage.
17. HIBISCUS FEROX	—	Brazil	Is considered to have as good spinning qualities as jute. Extent of cultivation not known.
18. HIBISCUS KITAIBELIFOLIUS	—	British Uganda	Attempts to make it suitable for spinning are in progress. Results not known.
19. HIBISCUS SABBARIFFA	Roselle (Patwa in India)	India, Italian East Africa, Java	Used for rope and cord making. Has been developed during the last six years by subsidy from Dutch Government and is now one of the most serious competitors to jute. Two mills have been erected to manufacture sugar bags and their output in 1939 being approximately three million bags, representing a loss to the Indian trade of nearly 15% of the normal annual consumption in Java.

Scientific Name	Popular Name	Where grown and developed	Uses and other important features
20. HYPHAENE THEBAICA	'Dum'	Eritrea	Fibre extracted from the leaves of this plant is used to make twine, rope, packing cloth and bags. It is understood that this industry is being developed by the Italians.
21. —	Ixtle de Maguey	} Mexico	Belongs to the <i>Agava</i> family, the fibre from the leaves is largely used to meet the local demand for ropes and twine in place of jute twists.
22. —	Ixtle de Lechuguika		
23. —	Ixtle de Palma		
24. LUPINUS ALBUS	} Lupin	Italy	Used in the production of coarse cloth. It was claimed by Italians that sacks and awnings prepared from this fibre were comparable to jute. Good results were reported to have been obtained by mixing Lupin with cotton and hemp. Experiments in water-proofing fabrics prepared from it are in progress.
25. LUPINUS LUTENS			
26. LUPINUS VARIUS			
27. LYGEUM SPARTUM	Esparto grass	Spain	Being used as a substitute for jute in manufacture of bags, coarse cloth and rope-soled shoes. The extent of this industry is not known.
28. MUSA SPECIES	Musa fibre	Ethiopia	Up to now used only for domestic purposes but it is understood two Italian factories were being erected to manufacture packing cloth and sacks from this fibre.

Scientific Name	Popular Name	Where grown and developed	Uses and other important features
29. NEOGLAZIOVIA VARIEGATA	Caroa or Crowa	Brazil	A serious competitor. It is understood that the Brazilian Government are sponsoring the cultivation of this fibre so that it may replace all imports of Sisal, henequin or jute. According to reports Caroa does not require either softening or carding before spinning and it is claimed that it is better than jute for cloth making.
30. NIPA FRUITICANS	Attap or Lalang grass	Medan (Sumatra)	Replacing jute cloth for protecting tobacco during cultivation and as a carrier.
31. PHORIUM TENAX	Formio	Argentine	Being used in increasing quantities for twines and twists, ropes, sacks and alpagatas (i.e. rope-soled shoes customarily made from jute).
	New Zealand Hemp or New Zealand Flax Cananio in Spain	New Zealand, Chile, Natal, Spain, Isle of Man	Small quantities of coarse bags are produced by the natives from this fibre. The industry is still in an undeveloped state, but in Chile and Spain its possibilities are being investigated.
32. PISUM SATIVUM	Pita	Colombia	This fibre which resembles Sisal is being used in the manufacture of yarn, twine, cloth and bags.
33. SANSEIERERIA SPEC	Bowstring hemp	Italy	Being used in admixture with jute. The extent to which it is being utilized is not known.

Scientific Name	Popular Name	Where grown and developed	Uses and other important features
34. <i>SIDA RHOMBIFOLIA</i>		Italian East Africa	Considered to be a good substitute for jute but extent of production not known.
35. <i>SPARTIUM JUNCEUM</i>	Broom fibre	Italy	Reported to be used as substitute for jute.
36. <i>URENA LOBATA</i>	Cadillo (Cuba), Punga (Belgian Congo), Palo Palo, Paka or Pacca (Madagascar) Aramina (Italian E. Africa) Ban Ochra (India)	Cuba, Belgian Congo, Madagascar, India, Italian E. Africa	This fibre appears to be receiving considerable attention from Foreign Governments, particularly Cuba, Italy, Belgium where its possibilities are being used in admixture with other fibres for cloth production.
37. <i>URTICA CHOICA</i>	Nettle	Germany	Used in the production of cloth suitable for making containers, but so far no report of any large scale development.
38. —	Macambira	Brazil	Experiments have demonstrated that when mixed with caroa this fibre can be used successfully for making bags, canvas and other fabrics generally produced from jute.
39. —	Venezuelan fibre	Venezuela	The exact nature of the fibre is not known but it is reported that coffee and cocoa bagging of good quality has been made from yarn prepared from a mixture of jute and Venezuelan fibre.
40. —	Raffia	Madagascar	Bags and other textile articles are manufactured from raffia but extensive development has not so far been reported.

(b) ARTIFICIAL FIBRES

Popular Name	Where grown and developed	Use and other important features
Canapafiocco (artificial hemp fibre)	Italy	Reported to be mixed with raw jute in the form of tow and blended with jute yarn in the manufacture of cloth.
Sniafiacco	Italy	A type of coarse artificial silk made into small bags for retail distribution of flour, grain, macaroni and chemical products, thereby reducing the number of jute bags used for these purposes.
Staple fibre	Germany	Produced from dried potato tops and wood cellulose is being used in increasing quantities for cloth production.
Straw fibres (zell jute)	Germany	A serious substitute. Artificially produced from straw, the German Government in 1938 passed a decree whereby all jute manufacturers had to include quantities of this fibre along with hemp and flax in their products.
Artificial wood fibre	Germany	Prepared by chemical treatment from certain types of wood bark ; it can be spun into a coarse but strong yarn, suitable for twine and cordage.
Willow bark	Germany	Fibre having good spinning properties is being extracted by chemical treatment from willow bark. It is reported that it mixes with flax, cotton, wool or jute and the fabrics produced from it are harder wearing than jute.

APPENDIX J.

CALCUTTA BALED JUTE ASSOCIATION

HOME GUARANTEE FORM.

(as provided for in Clause 9(c) and 16 of the Association's Contract Form)

Calcutta,.....19 .

Messrs.

Gentlemen,

With reference to Messrs. Contract No.....
of for bales, subject to the conditions endorsed
hereon, we hereby guarantee:—

- (a) To pay you all allowance including charges and/or penalty, if any, which may be awarded in arbitration, in respect of the above mark and description, as delivered or discharged at destination on the ground of quality and/or condition.
- (b) To accept the award or awards of arbitrators purporting to be made at the port of London in respect of such jute as evidence of the qualification and authority of the arbitrators, of the identity of the jute arbitrated on, and of the quality and/or condition of the jute on the delivery and discharge thereof at destination.

And we declare that signature of the arbitrators on any award in London shall for the purposes hereof be deemed to be sufficiently proved by the production of the award purporting to be signed by them.

- (c) To be bound by such award or awards as conclusive of our liability to you to pay allowances under our guarantee hereby given.
- (d) To indemnify you against loss incurred by you by reason of shortage in weight at port of destination and to be bound by certificates of outturn at port of destination.

And it is hereby expressly agreed that our liability for the quality and/or condition shall be limited to payment of allowances including charges and/or penalty, if any, and that under no circumstances shall you be entitled to invoice back the jute or to insist on our taking same back and that no provision in any award for invoicing back or rejection of the jute shall be binding on us.

This guarantee shall be incorporated in and form part of our contract with you above mentioned.

Yours faithfully,

(Balers.)

Conditions to be implied in the Letter of Home Guarantee.

1. All allowances for quality and/or condition shall be calculated on the basis that each bale weighs 400 lbs.

2. Any claim from home on account of quality and/or condition shall be notified to sellers within twenty-three days from the final date of discharge of the steamer at port of destination.

3. The result of the arbitration award shall be notified to sellers by the buyers immediately on receipt of telegraphic advice from home. If such information be not notified to the sellers in sufficient time to enable them to lodge an appeal, such award shall not be binding on the sellers,

4. If a parcel guaranteed at port of destination for quality and/or condition be passed by arbitration in Calcutta, then sellers' liability on such parcel shall cease and the letter of guarantee will be considered as cancelled.

5. Any sterling claims for quality and/or condition to be converted into rupees at the Bank's selling rate for demand Drafts ruling on the 10th day after the date of award ; and such rupee bills for allowance to be paid within seven days of presentation of your Bill to us. Bill to carry interest at Bank rate from date of presentation until date of payment.

6. (a) In the case of a parcel guaranteed for weight at port of destination, buyers may deduct short weight as per Licensed Measurers' certificate at time of shipment, and shall furnish weight certificates within twelve months from the date of shipment.

On receipt of these certificates, sellers shall pay to buyers for any short weight or receive payment for any excess weight calculated on the sterling price according to buyers' debit or credit notes from their home agents:—

(b) When buyers have received a weight guarantee and do not wish to avail themselves of same, they shall deduct short weight as per Licensed Measurers' certificate at time of shipment and shall also release sellers from their weight guarantee, notifying sellers to this effect within 15 days of the date of the Bill of Lading.

7. If buyers fail to present weight certificates within twelve months from the date of shipment, they shall pay on demand to sellers excess weight at the rate of 5 lbs. per bale, calculated on the contract price.

8. In cases where the buyers' claims have been settled amicably without proceeding to arbitration, sellers will pay such claims in terms

of this guarantee letter, and, in all cases where sellers have made an offer or offers for amicable settlement (whether such offer or offers are accepted or not) *sellers shall pay to buyers the actual telegraphic and other expenses up to a sum not exceeding rupees five on such parcel on which the baler has made an offer for amicable settlement.*

Buyers will, on demand from sellers, produce debit notes from their home agents, in confirmation of the amicable settlement.

In cases of arbitration balers will pay the actual cable charges up to a sum not exceeding Rs. 5 but if the goods are passed in arbitration balers will not pay any such charges.

*Such liabilities to be limited to a sterling price not exceeding by £1 per ton the C. I. F. value based on the rupee price of the contract ; viz:—rupee price, plus export duty and charges, insurance, freight, commissions, etc.

APPENDIX K.

(*Indian Central Jute Committee Bulletin, July 1940*)

JUTE & FABRICS

Fixation of Minimum Prices

Decision of Indian Jute Mills Association

An Associated Press message of June 27 (1940) states that the Committee of the Indian Jute Mills Association held a special meeting to discuss the present market position and to devise methods by which they could best assist the market. After consultations with the Government of Bengal, the Committee have decided strongly and unanimously to recommend to members that they should purchase raw jute at their usual rate of buying but at prices which will not be below the following per maund:—

			Rs.	As.	P.
Indian	District	Middles	8	0	0
		Bottoms	7	0	0
Indian	Jat	Middles	8	8	0
		Bottoms	7	8	0
European	Packed	Middles	9	0	0
		Bottoms	8	0	0

The Committee also unanimously recommended that standard fabrics should not be sold at prices below:—

40" 8 oz. cloth Rs. 12-0-0 per 100 yds.

40" 10 oz. cloth and 40" 10½ oz. cloth Rs. 15-8-0 per 100 yds., this to be regarded as the basis.

Heavy Ceers and B. Twills Rs. 32-0-0 per 100 bags.

As regards fabrics other than standard, members have been requested not to sell these at prices below such as may be determined in strict relation to the above mentioned prices, for standard goods.

This position will obtain up the end of December of this year when the Committee have undertaken to place further proposals before Government designed to meet the situation as it then exists, although it may be necessary in the interim to consult with Government regarding these prices should circumstances necessitate.

Taking into consideration the stock of figures of the mills for 40" inches 8 oz. cloth the Committee unanimously recommended that until further notice, members should make no sales of this cloth either with or without guaranteed shipments. Further, the Committee are at one in appealing to members to afford all possible facilities to their bazar buyers in the present difficult position by such action as buying back-grounds or by the interchange of one fabric for another or by such other means as mills might by arrangement with their buyers, consider best in the circumstances.

APPENDIX L.

(*Indian Central Jute Committee Bulletin, Dec. 1940*)

DELHI CONFERENCE ON JUTE PROBLEMS

Held on the 4th and 5th December, 1940

The results of the Delhi Conference were as below:—

1. The mills will do their utmost to purchase jute according to the following programme:

15	lacs of bales by	January 15,
25	" "	February 15,
32.5	" "	March 15, and
37.5	" "	April 15, 1941.

2. This will be exclusive of any jute of quality lower than Bottoms other than cuttings. Jute thus excluded will be subject to no price agreement.

3. The basic minimum prices for loose jute in rupees per maund will be as follows:—

	Middles	Bottoms
European packed	8/8	6/12
Indian Jat	8/4	6/8
Indian District	7/12	6/-

Unassorted Daisee in Drums Rs. 6-0-0 per maund.

4. If in any of the four periods referred to in the above buying programme the mills are unable to purchase the full amount stipulated, and if prices have not risen by any more than 4 as. per maund above the agreed minimum prices the Association will arrange to purchase jute up to the stipulated totals on behalf of the Government on the following terms:—

- (i) The Association will act as agents for all Government purchase, ensuing that qualities are according to standard and such as can be utilised in mills' manufactures and therefore marketable.
- (ii) The Association will arrange for the mills to give storage facilities for the jute, for a period which will not exceed 18 months except by mutual agreement.
- (iii) Mills which give storage facilities will get a godown rent of 1 anna per maund per annum.
- (iv) The Government will be responsible for insurance against all risks, to the extent that they may wish to have this effected, and will take all responsibility for deterioration, wastage, loss of weight and risk of failure to recover under-seller's guarantees for defects.

(v) The Government will be responsible for actual inward and outward handling charges except in respect of jute sold to a mill in which it is stored on their behalf.

(vi) The mills make no buying charges.

5. The Government will be responsible for the financing of purchases effected on their behalf subject to any arrangement that may be made on a voluntary footing with mills under which they will participate in such financing or relieve Government of it altogether. The members, it is understood, will give their further consideration to the question of details regarding purchases on Government account should this become necessary.