

INDIAN CENTRAL JUTE COMMITTEE

Report on the MARKETING & TRANSPORT OF JUTE IN INDIA

FIRST REPORT

Price—Rs 1-8-0 or 2s 6d

633.54 I39R
Indian Central jute Committee
Report on the marketing &
transport of jute in India, 194
23 MAR 1000
22044

UNIVERSAL LIBRARY
OU_170353
UNIVERSAL LIBRARY

OSMANIA UNIVERSITY LIBRARY

Call No. 633.54 I39R Accession No. 22044

Author Indian Central Jute Committee

Title Report on the Marketing in India

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

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 Cofmittee 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, aratdars, 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 58
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 .. 63
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) *Farias, paikars and beparis* .. 69
(b) *Dalals* (brokers) 70
(c) *Aratdars* (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) *kutcha* balers 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) *Pucca* balers 75
3. Terminal markets—Calcutta 75
(a) *Aratdars* (commission agents) .. 76
(b) *Dalals* (brokers) 76
(c) *Pucca* balers 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 *hats* .. 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*) *Katni* 106
E. Description and incidence of market charges and deductions 106
1. Upcountry 106
(*a*) Deductions in kind 106
(*i*) *Dhalta* 106
(*ii*) *Bachhat* 107
(*iii*) *Kabari* 107
(*iv*) *Namuna* .. . 107
(*v*) *Pasga* 107
(*b*) Cash allowances 107
(*i*) *Zamindars'* toll 107
(*ii*) *Aratdari* 108
(*iii*) *Dalali* or brokerage .. 108
(*iv*) *Koyali* 108
(*v*) Office expenses .. 108
(*vi*) *Jachandari* 108
(*vii*) *Britti* 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 *beparis* 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. *Hats* and primary markets 119
(*a*) Carts 119
(*b*) Boats 119
3. Secondary markets (baling centres) .. 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 *daisee* districts 126
5. Terminal markets 127
(a) Cossipore 127
(b) Hatkhola 127
(c) Shambazar 128
(d) Mills and presses 128
(e) Standing charges of *kutcha* 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 transhipment 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) *White jute* (Corchorus capsularis) .. 162
(i) *Jat* 162
(ii) *District* 163
(iii) *Northern* 163
(iv) *Western* (or Bihar) .. 163
(v) *Assam* 163
(vi) *Orissa* 163
(vii) *Dowrah* (or *Pubal*) .. 164
(viii) *Jungli* 164
(b) *Tossa jute* (Corchorus olitorius) .. 164
(i) *Jat* 164
(ii) *District* 164
(iii) *Northern* 165
(iv) *Western* (or Bihar) .. 165
(v) *Orissa* 165
(vi) *Jungli* 165
(c) *Daisee jute* (Corchorus olitorius) .. 165
(i) *Jat* 165
(ii) *District* 165
2. Quality factors 166
3. Variations of qualities 168
C. Grading 169
1. Present practices 169
(a) Growers 169
(b) *Beparis* 169
(c) *Aratdars* 170
(d) *Kutcha* balers 170
2. Standards of packing 171
3. Malpractices 172
(a) Watering of jute 172
(b) Adulteration of qualities 174
4. Method of sale 177
(a) Upcountry 177
(i) Estimation 177
(ii) Assortment 177
(b) Calcutta 178
(i) Mills' contracts 178
(ii) *Pucca* balers' contracts .. 178
D. Standardization 179
1. General 179
2. Fixation of standards 179
3. Claims and their causes 183
(a) Short weight 183
(b) Excess moisture 184
(c) Quality 184
4. Arbitration by Bengal Chamber of Commerce 184

Chapter VI—Conservation 186-198
A. Condition governing storage 186

		PAGE
1.	Growers	186
2.	*Farias* and *beparis*	187
3.	*Aratdars*	187
4.	*Kutcha* balers	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*) Shambazar	192
	(*b*) Hatkhola	192
	(*c*) Cossipore	193
5.	Consumers' premises	193
	(*a*) Mills	193
	(*b*) *Pucca* balers	193
C.	Effect of storage on fibre	194
1.	General	194
2.	Loss in weight	194
3.	Deterioration in colour and strength ..	195
	(*a*) *Jat*	195
	(*b*) *District*	196
	(*c*) *Dowrah*	196
	(*d*) *Northern*	196
	(*e*) *Daisee*	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 tossa	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 *hats*	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 cultition	63
XXX	Financial condition of agriculturists in Bengal	64
XXXI	Proportion of marketable surplus of jute handled by free lance *beparis* ..	70
XXXII	Various functions of *aratdars* ..	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 *kutcha* 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 *Jat & District* 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

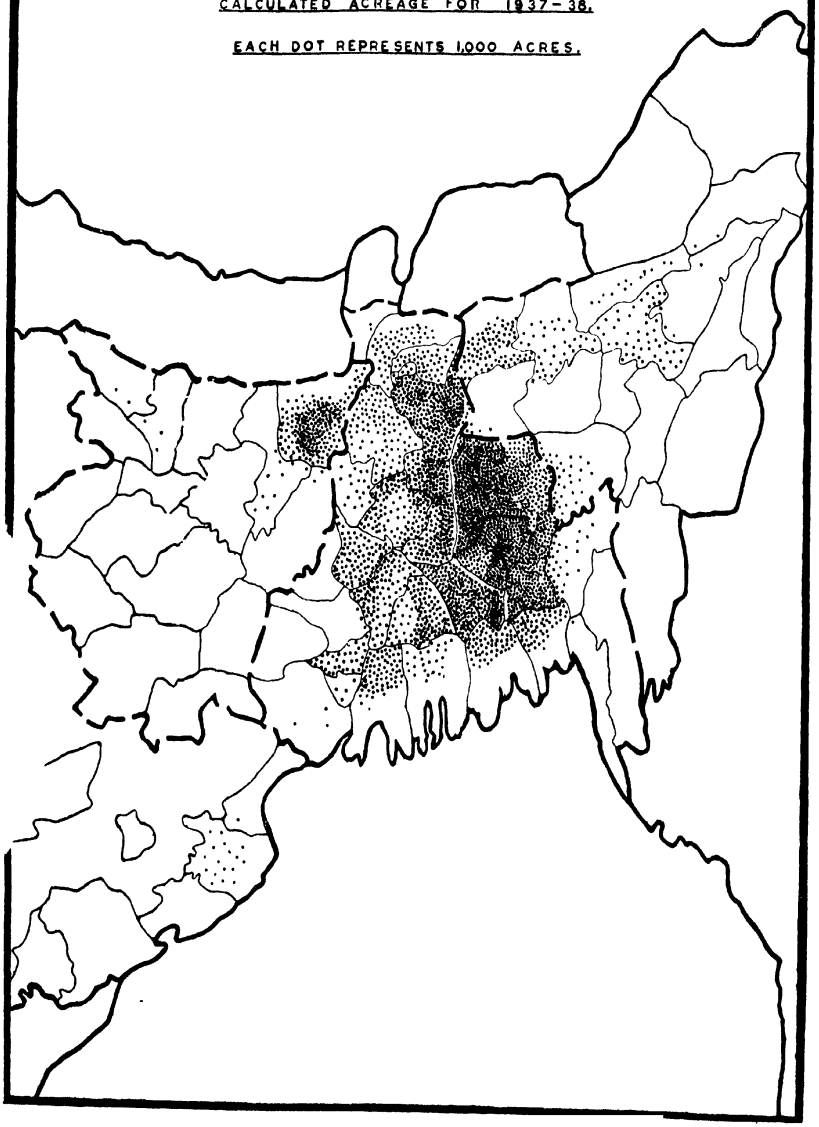
Maps 3

Photographs 10

DISTRIBUTION OF JUTE ACREAGE

CALCULATED ACREAGE FOR 1937-38.

EACH DOT REPRESENTS 1,000 ACRES.



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 India[3] 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.[5] 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 *chote*.[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 Rishra[2] 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 1859[4] 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. 10.
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 inreasing 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 avaliable, 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.

Years		*Manchuko*		*China*
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 Argicultural 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. (c) *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 Committe'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 kashta,* 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.

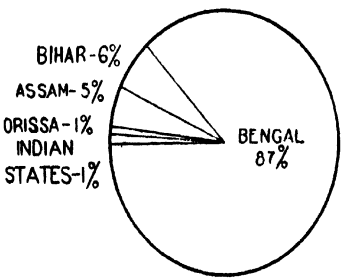
[1] According to the "Agricultural Statistics of India" (1939), the area under jute in the United Provinces was 3,137 acres in 1936—37

(*Continued on page 14*)

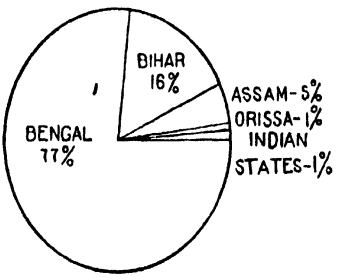
DISTRIBUTION OF JUTE CULTIVATION.

ACCORDING TO FORECAST ESTIMATES

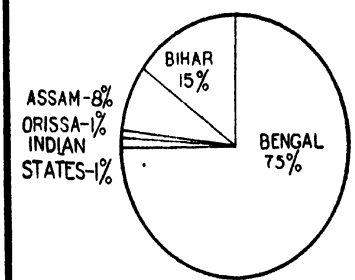
1935–36



1936–37



1937–38



1938–39

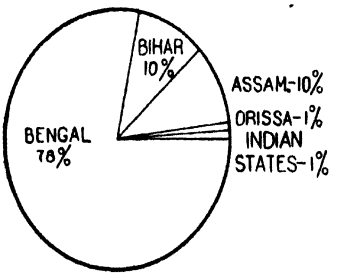


TABLE I

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	3,028	1,597	1,822	2,142	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.	Parcentage 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 Cental Jute Committee in January, 1940, showed that in 1939 the probable jute area in the U. P. was about 12,000 acres. No provincial forcast 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.
Champaran	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 Note[1]—as well as in Madras, 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.

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 acrage 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 1939-10, 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 1010 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 subseqently 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.

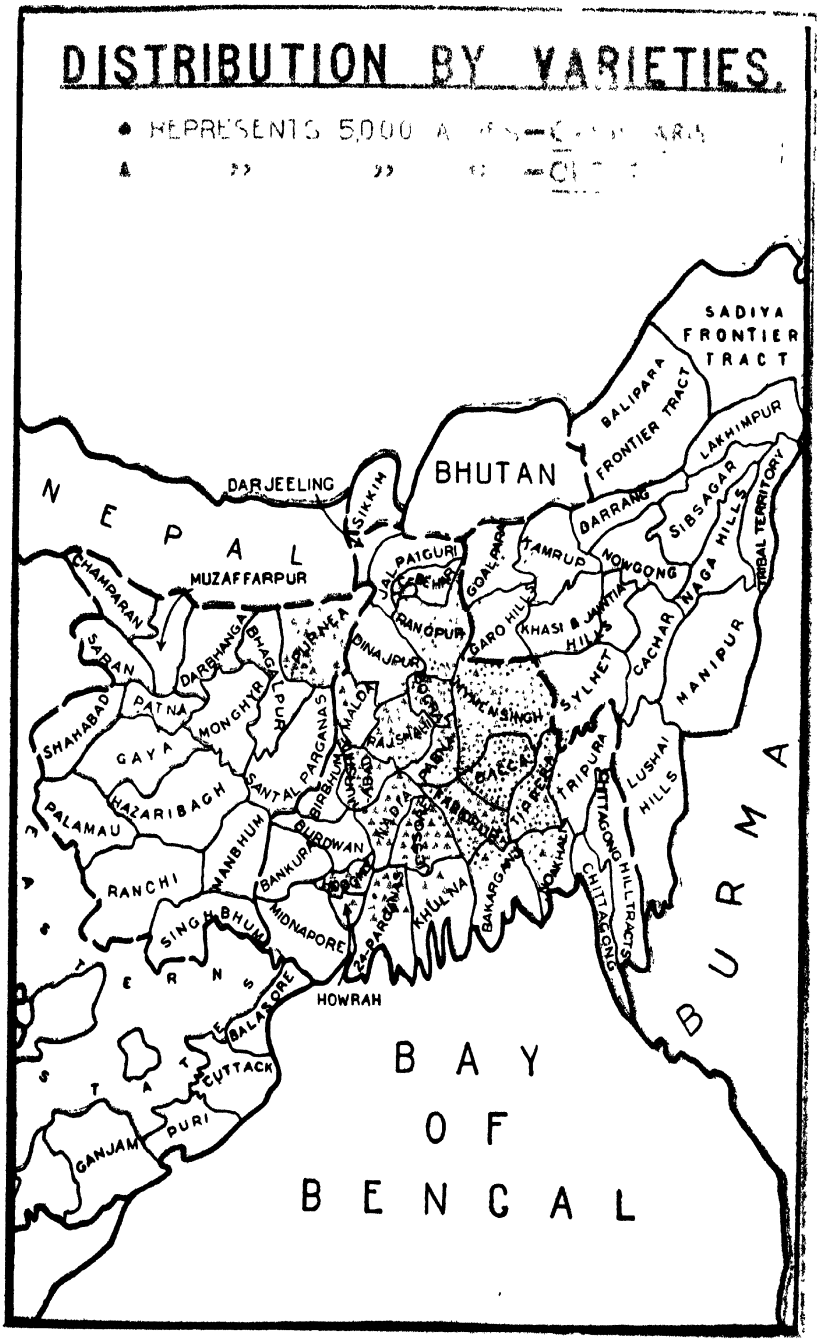
46. Capsularis is more commonly grown in East and North Bengal, Bihar and Assam, whereas Olitorius predominates in West Bengal—*e.g.* in the districts of Khulna, Jessore, Nadia, 24 Parganas and Hooghly. The latter variety is also important in the Rajshahi and Pabna districts of North Bengal. Table XV (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 A
▲ » » =CH
SADIYA FRONTIER TRACT
BALIPARA FRONTIER TRACT
LAKHIMPUR
SIBSAGAR
NAGA HILLS
TRIBAL TERRITORY
DARRANG
TAMRUP
NOWGONG
BHUTAN
DARJEELING
SIKKIM
NEPAL
JALPAIGURI
GOALPARA
GARO HILLS
KHASI & JAINTIA HILLS
CACHAR
MANIPUR
CHAMPARAN
MUZAFFARPUR
SARAN
DARBHANGA
BHAGALPUR
PURNEA
DINAJPUR
RANGPUR
PATNA
MONGHYR
MALDA
RAJSHAHI
PABNA
MYMENSINGH
SYLHET
SHAHABAD
GAYA
SANTAL PARGANAS
BIRBHUM
NADIA
DACCA
TIPPERA
TRIPURA
LUSHAI HILLS
HAZARIBAGH
PALAMAU
MANBHUM
BURDWAN
JESSORE
FARIDPUR
BAKARGANJ
NOAKHALI
CHITTAGONG HILLTRACTS
RANCHI
BANKURA
HOOGHLY
24-PARGANAS
KHULNA
SINGHBHUM
MIDNAPORE
HOWRAH
BALASORE
CUTTACK
PURI
GANJAM
BAY OF BENGAL
BURMA
EASTERN STATES

BHUTAN
NEPAL
BURMA
BAY OF BENGAL
DARJEELING
SIKKIM
MUZAFFARPUR
HOWRAH
SADIYA FRONTIER TRACT
BALIPARA FRONTIER TRACT
LAKHIMPUR
DARRANG
TAMPUR
GOALPARA
RANGPUR
DINAJPUR
PURNEA
DARBHANGA
CHAMPARAN
SARAN
PATNA
GAYA
SHAHABAD
MONGHYR
BHAGALPUR
MANIPUR
CACHAR
SYLHET
MYMENSINGH
BOGRA
RAJSHAHI
MALDA
DACCA
TIPPERA
FARIDPUR
KHULNA
JESSORE
BURDWAN
BANKURA
MIDNAPORE
HAZARIBAGH
MANBHUM
PALAMAU
RANCHI
SINGHBHUM
BALASORE
CUTTACK
PURI
GANJAM
LUSHAI HILLS
CHITTAGONG
CHITTAGONG HILL TRACTS

DISTRIBUTION BY VARIETIES.

● REPRESENTS 5,000 ACRES—CAPSULARIS

▲ " " " —OLITORIUS

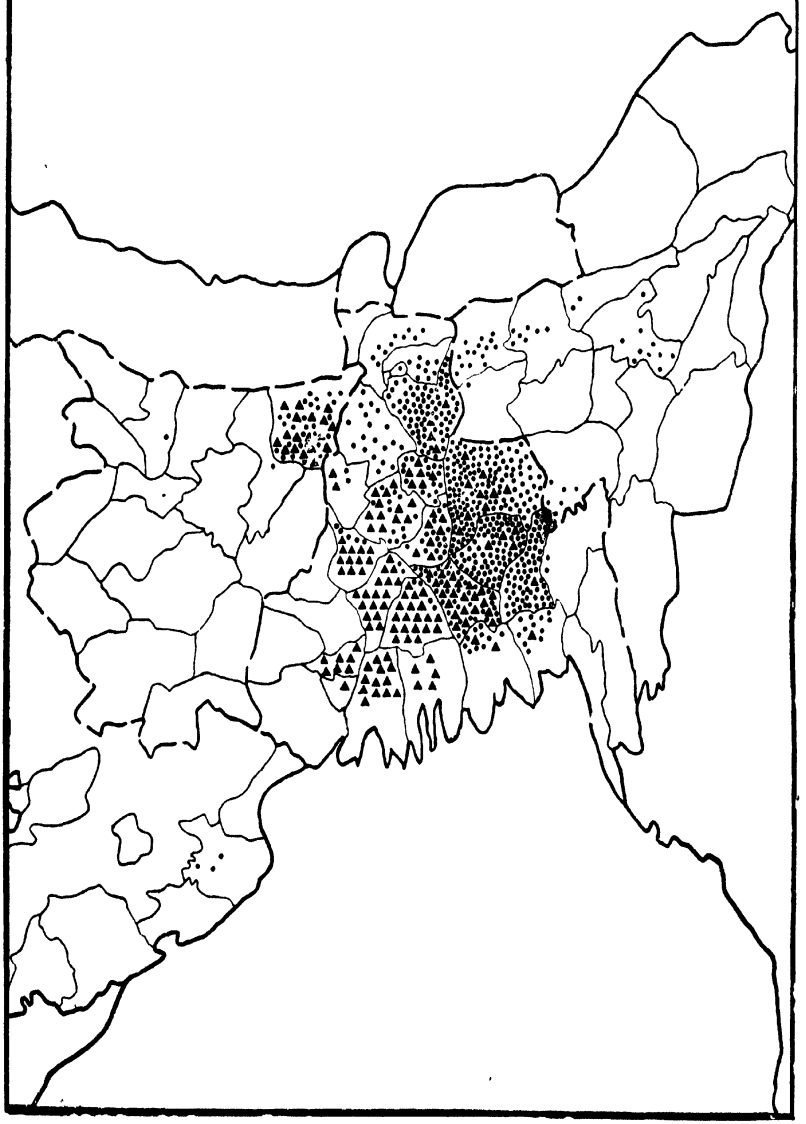


TABLE XV

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	1938-39
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, 1938.

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 82⅔ 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	18.41	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			13.00
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 culculated 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.

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 ... or	10,680 acres 10,700 „	14,841 acres 14,800 „	15,162 acres 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÷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 acre[1] 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	205,687 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 fluc-

[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	1,089,364	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

Upcountry 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

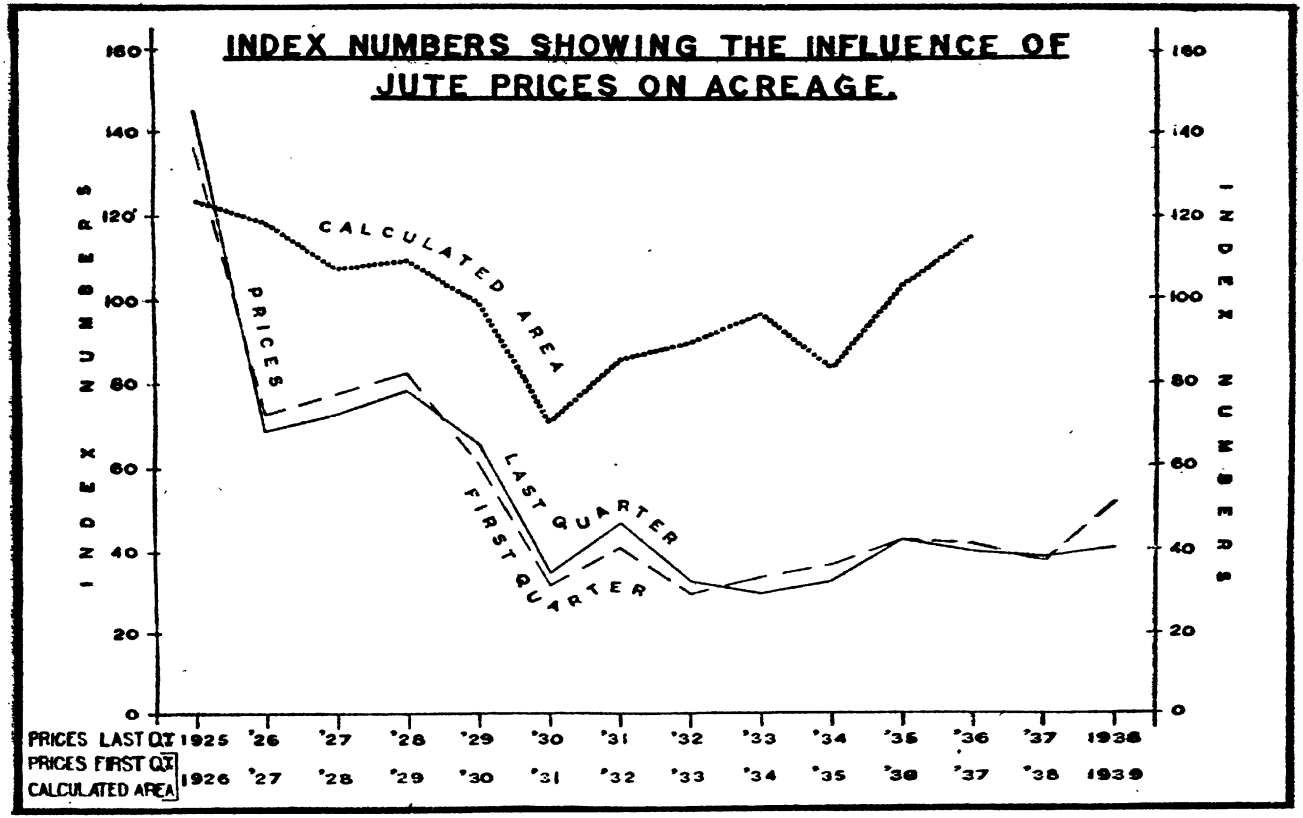

INDEX NUMBERS SHOWING THE INFLUENCE OF JUTE PRICES ON ACREAGE.
INDEX NUMBERS
INDEX NUMBERS
180
140
120
100
80
60
40
20
0
CALCULATED AREA
PRICES
LAST QUARTER
FIRST QUARTER
PRICES LAST QT 1925 '26 '27 '28 '29 '30 '31 '32 '33 '34 '35 '36 '37 1938
PRICES FIRST QT
CALCULATED AREA 1926 '27 '28 '29 '30 '31 '32 '33 '34 '35 '36 '37 '38 1939

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	3,393	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]

[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 restricton 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 acrage 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 Beng al
	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 aud 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 subseqently 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.

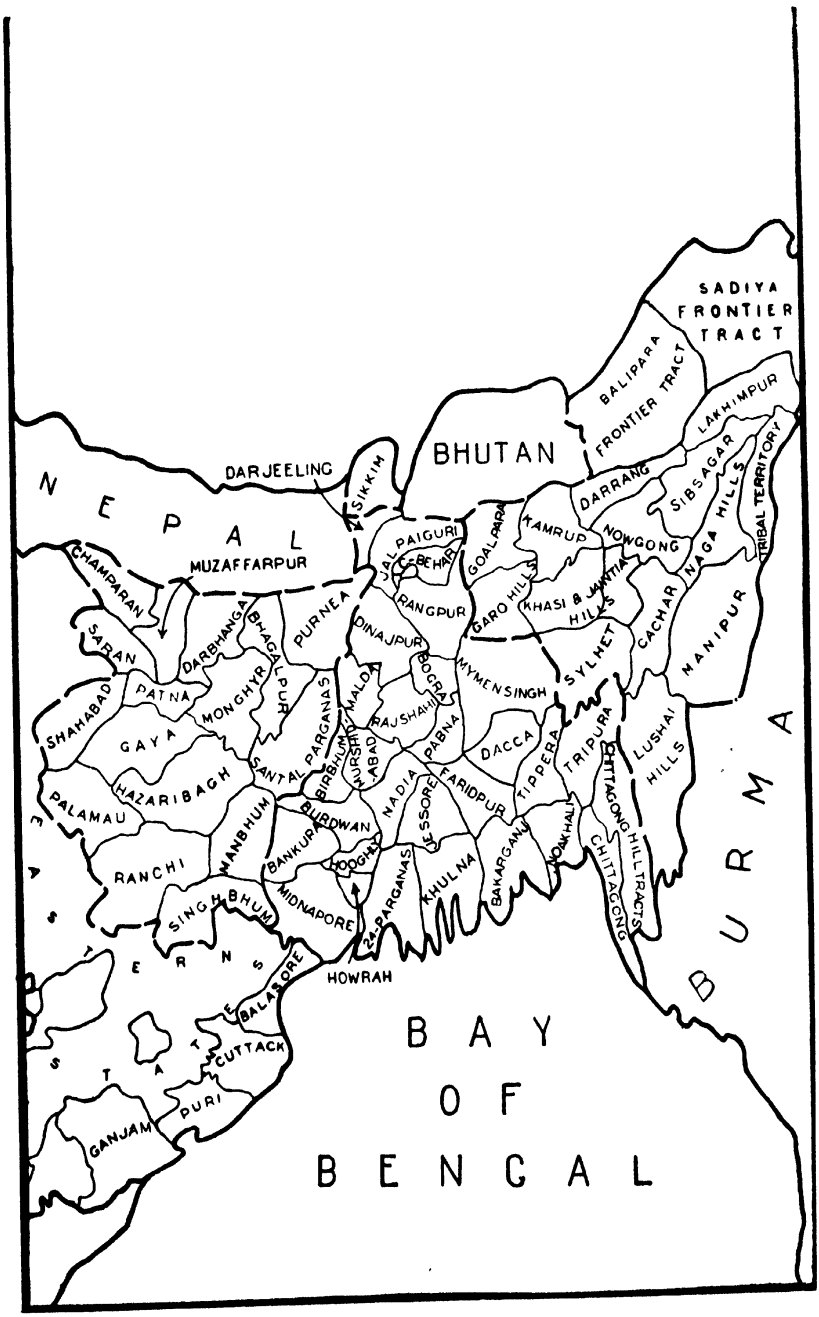
46. Capsularis is more commonly grown in East and North Bengal, Bihar and Assam, whereas Olitorius predominates in West Bengal—*e.g.* in the districts of Khulna, Jessore, Nadia, 24 Parganas and Hooghly. The latter variety is also important in the Rajshahi and Pabna districts of North Bengal. Table XV (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,


SADIYA FRONTIER TRACT
BALIPARA FRONTIER TRACT
LAKHIMPUR
BHUTAN
DARJEELING
SIKKIM
NEPAL
DARRANG
SIBSAGAR
NAGA HILLS
TRIBAL TERRITORY
JALPAIGURI
COOCH BEHAR
GOALPARA
TAMRUP
NOWGONG
CHAMPARAN
MUZAFFARPUR
RANGPUR
GARO HILLS
KHASI & JAINTIA HILLS
CACHAR
MANIPUR
SARAN
DARBHANGA
BHAGALPUR
PURNEA
DINAJPUR
BOGRA
MYMENSINGH
SYLHET
PATNA
MONGHYR
MALDA
RAJSHAHI
SHAHABAD
GAYA
SANTAL PARGANAS
BIRBHUM
MURSHIDABAD
PABNA
DACCA
TIPPERA
TRIPURA
LUSHAI HILLS
HAZARIBAGH
NADIA
JESSORE
FARIDPUR
PALAMAU
BURDWAN
NOWGAON
CHITTAGONG
CHITTAGONG HILL TRACTS
RANCHI
MANBHUM
BANKURA
HOOGHLY
KHULNA
BAKARGANJ
SINGHBHUM
MIDNAPORE
24-PARGANAS
HOWRAH
BALASORE
CUTTACK
PURI
GANJAM
BAY OF BENGAL
BURMA
STATES

DISTRIBUTION BY VARIETIES.

● REPRESENTS 5,000 ACRES—CAPSULARIS

▲ " " " —OLITORIUS

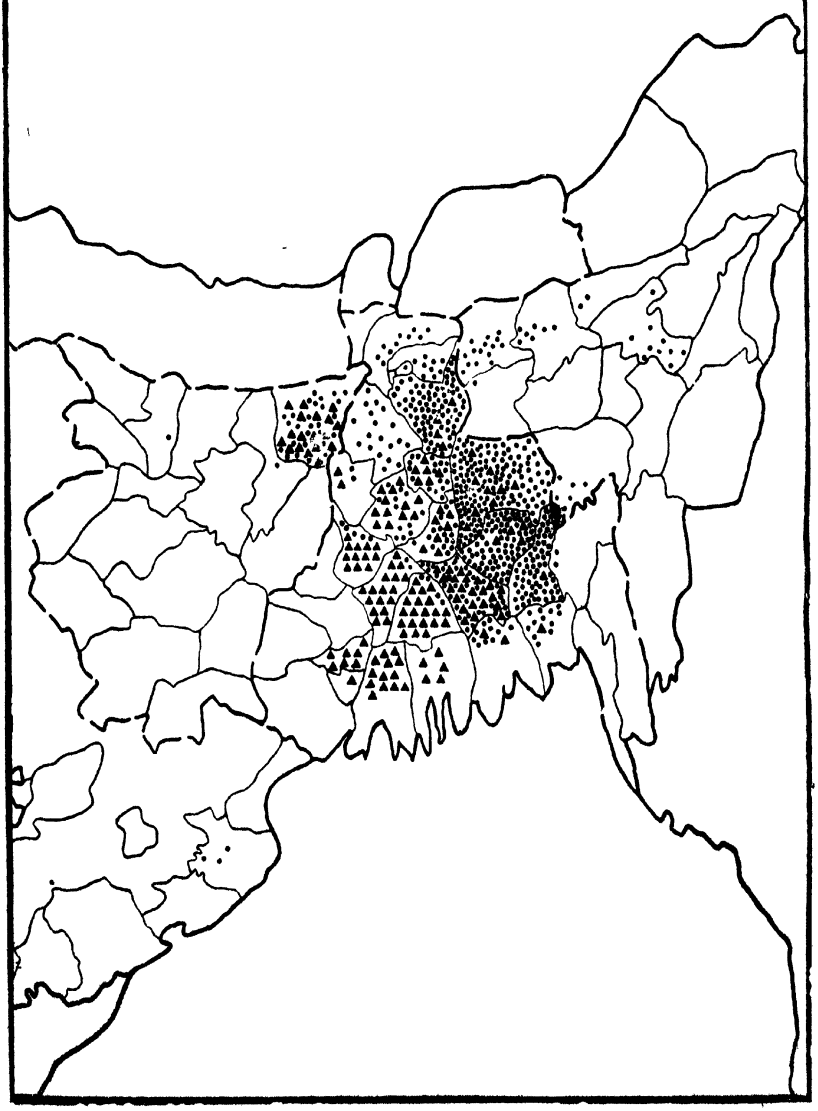


TABLE XV

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	1938-39
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, 1938.

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 82⅔ 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	18.41	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			13.43
Goalpara		9.18	15.09	14.70	16.13
Kamrup		16.53			14,09
Nowgong		12.88			13.00
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 culculated 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 Olitorius 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

TABLE XX

Area Retained for Seed Purposes, and Fibre Retained for Domestic Use.
(as reported by witnesses)

District	Scope of enquiry			Land for seed		Fibre for domestic use	
	Number of growers interogated	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	98	164	1,004	4.1	2.5	102	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
Rajshahi	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	263	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
6.	Calculated production		11,000,000
7.	Change of stock upcountry (f)		+ 895,000
8.	Total production		11,895,000
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).

(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	9,636	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 *daisee* districts,[1] the harvesting of this variety sometimes extends even into October.

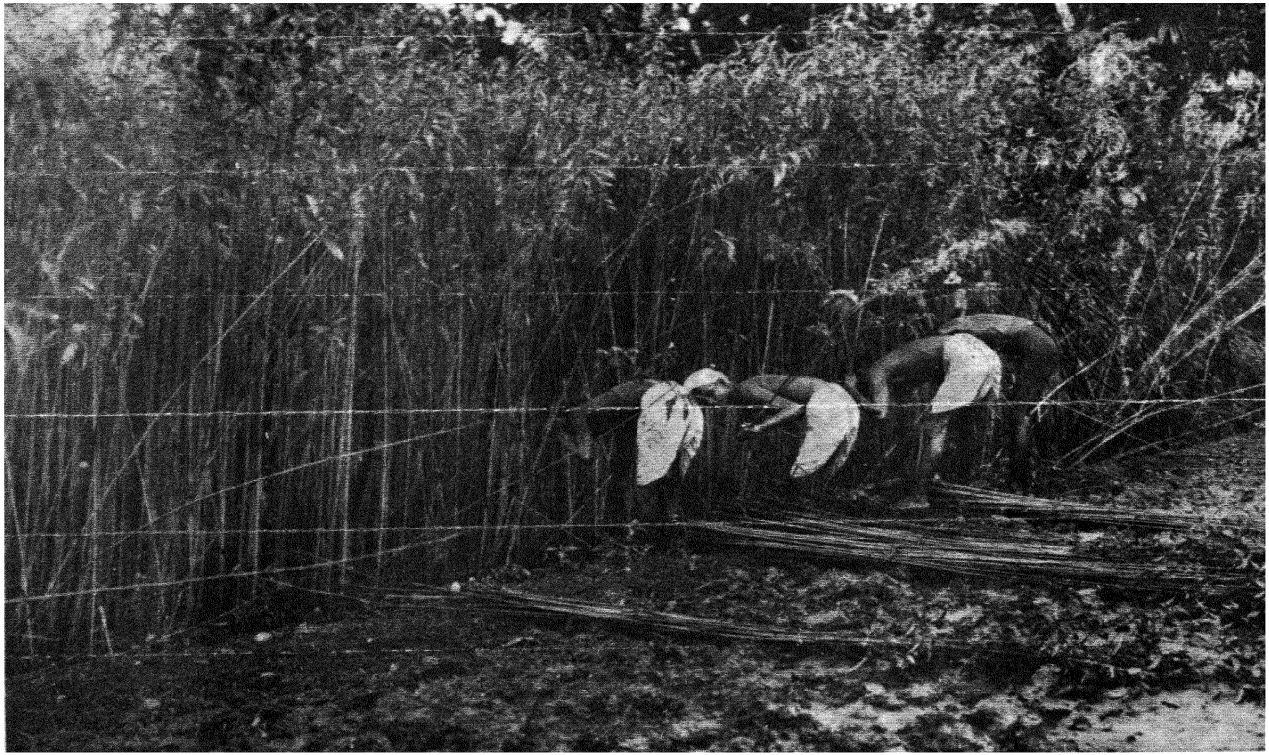
2. Different Stages.

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 softing 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 disolved 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 *
		Dinajpur	16-18		
Mymensingh	15-20 20-25 *	Jalpaiguri	18-25 *	Nadia	18-20
				Murshidabad	16-20
Faridpur	15-18 20-25 *	Bogra	12-15 18-20 *	Jessore	18-20
Bakarganj	16-20 21-25 *	Pabna	15-20 20-25 *	Khulna	16-18 18-21
Tippera	15-18 18-20 *	Malda	15-20	Hooghly	14-16 16-20 *
Noakhali	15-20	Rangpur	12-18 16-20 *		
Tripura State	18-21				
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.

60. 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



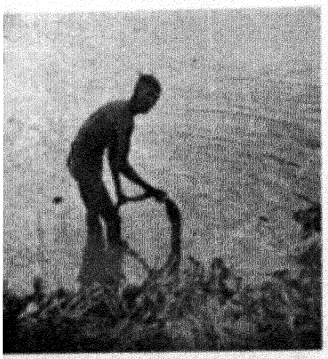
Retting



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 1½ 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 1½ 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.

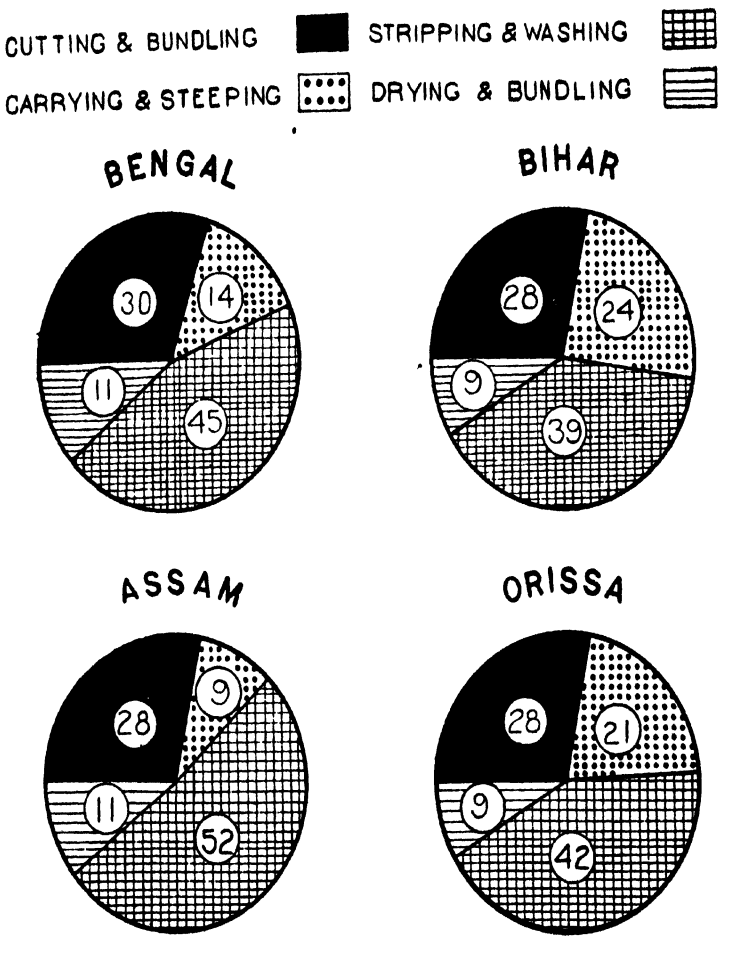
(per acre)

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.)[1] ..	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

[1] *Vide*—Table XIX.

Source—Marketing Enquiry.

PERCENTAGE EXPENDITURE ON PREPARATION OF JUTE.



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.

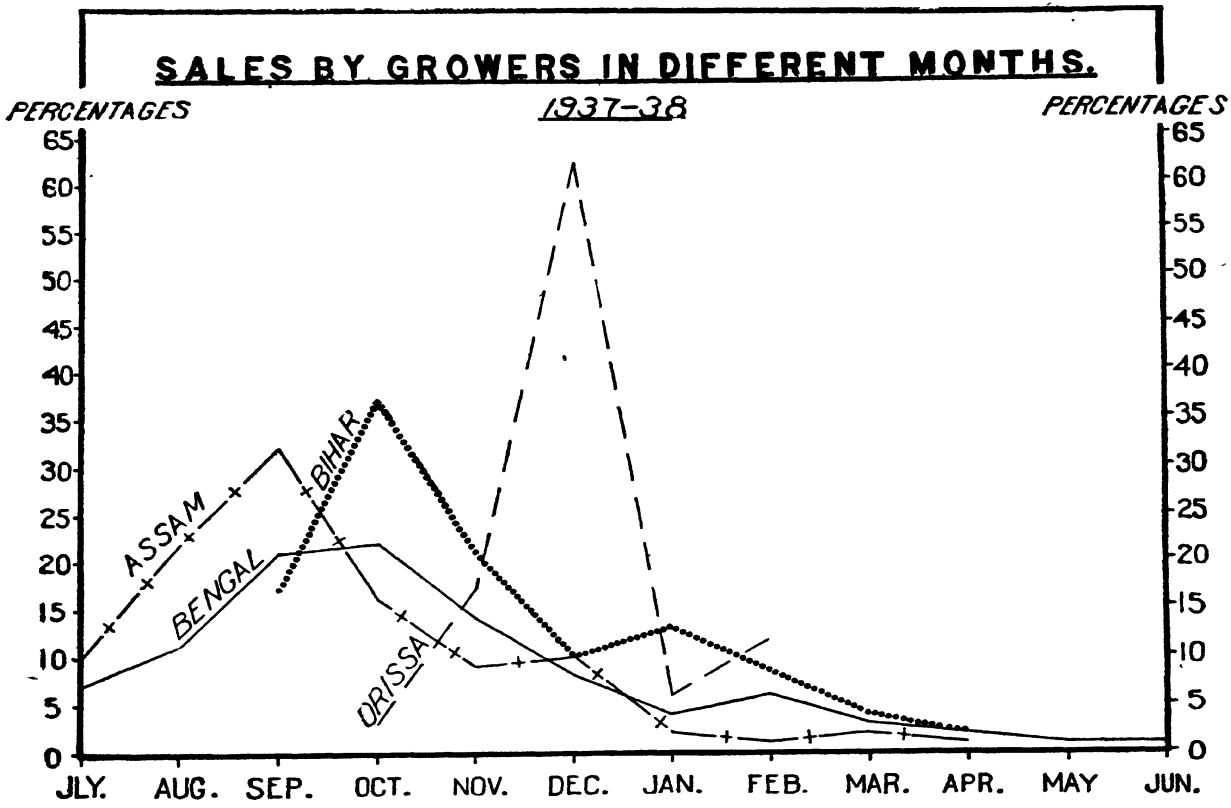
[1] In Ch. I, Section D supra, the crop cutting results were accepted as the most satisfactory yield figures available, but in view of the above explanation, they cannot be adopted in the present case,

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
65
60
55
50
45
40
35
30
25
20
15
10
5
0
ASSAM
BENGAL
BIHAR
ORISSA
JLY.
AUG.
SEP.
OCT.
NOV.
DEC.
JAN.
FEB.
MAR.
APR.
MAY
JUN.

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 evpenditure 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 *kutcha* 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 undertaking, 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 Frec lance Beparis.

Provinces	Percentage	Principal jute districts	Percentage
Bengal			
East	49	Dacca	58
		Mymensingh	23
		Tippera	50
North	40	Rangpur	24
		Jalpaiguri	14
		Pabna	53
West	20	Hooghly	24
		24 Parganas	25
Bihar	40	Purnea	40
Assam	78	Goalpara	83
		Nowgong	97
		Sylhet	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. aratdars* 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 *kutcha* 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 *kutcha* 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 *daisee* 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 **Pabna** Bera Serajganj **Tippera** Chandpur Hajiganj **Dacca** Kapasia Narsingdi Narayanganj **Rajshahi** Rajshahi **Rangpur** Saidpur Kurigram **Malda** Tulsihatta Shamsi **Murshidabad** Lalgola Kasimbazar Beldanga **Hooghly** Sheoraphuli **Nadia** Poradaha Meherpur **Nowgong** Haibergaon.	**Dacca** Jaydebpur Belaba Raipur Udhabganj Gopaldi Baira **Tippera** Matlab Bazar Nayergaon Majhiara Fandauk **Rajshahi** Naogaon **Nadia** Munshiganj **Rangpur** Kurigram Bamandanga Naldanga **Hooghly** Sheoraphuli **Backerganj** Babuganj	**Mymensingh** Ki-horeganj Madhuakhali **Dacca** Narsingdi Narayanganj Baira Ghior Serajdikhan Dighirpar Belaba **Tippera** Kuthirbazar Chandura **Murshidabad** Jiaganj Dhulian	**Dacca** Narsingdi Raipura Nitaiganj Sitalakhya Narayanganj Dighirpar **Tippera** Majhiara **Nadia** Bhairamara Alamdanga Kushtia **Hooghly** Sheoraphuli

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* (godows) 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 *kutcha* 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 *aratdars* 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 *aratdar*, 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 *aratdar*. The sellers have to pay the *aratdars* a consolidated fee of one to two annas per maund, being inclusive of selling commission and storage charge.

102. (d) *Kutcha 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 reacning these markets, the fibre is normally packed into, what are commonly called *kutcha* 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 *kutcha* 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 *kutcha* bales. Broadly speaking, the term '*kutcha* baler' embraces all dealers who own or hire establishments upcountry for preparing *kutcha* 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 *kutcha* 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 Kutcha 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 *kutcha* balers. The case of jute deriving from the *daisee* districts around Calcutta is, however, different. As there are no *kutcha* 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. (c) *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 10½ 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 *kutcha* 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 *kutcha* 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 *kutcha* 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 *kutcha* 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 *hats*	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 *kutcha* 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) *kutcha* baling centres (secondary markets). *Zamindars* hold proprietory rights in villages. The plots of land where *hats* are held, and where the *aratdars* and *kutcha* 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 *kutcha* 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 *kutcha* 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 *kutcha* 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 *kutcha* 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 *jachandar* (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.

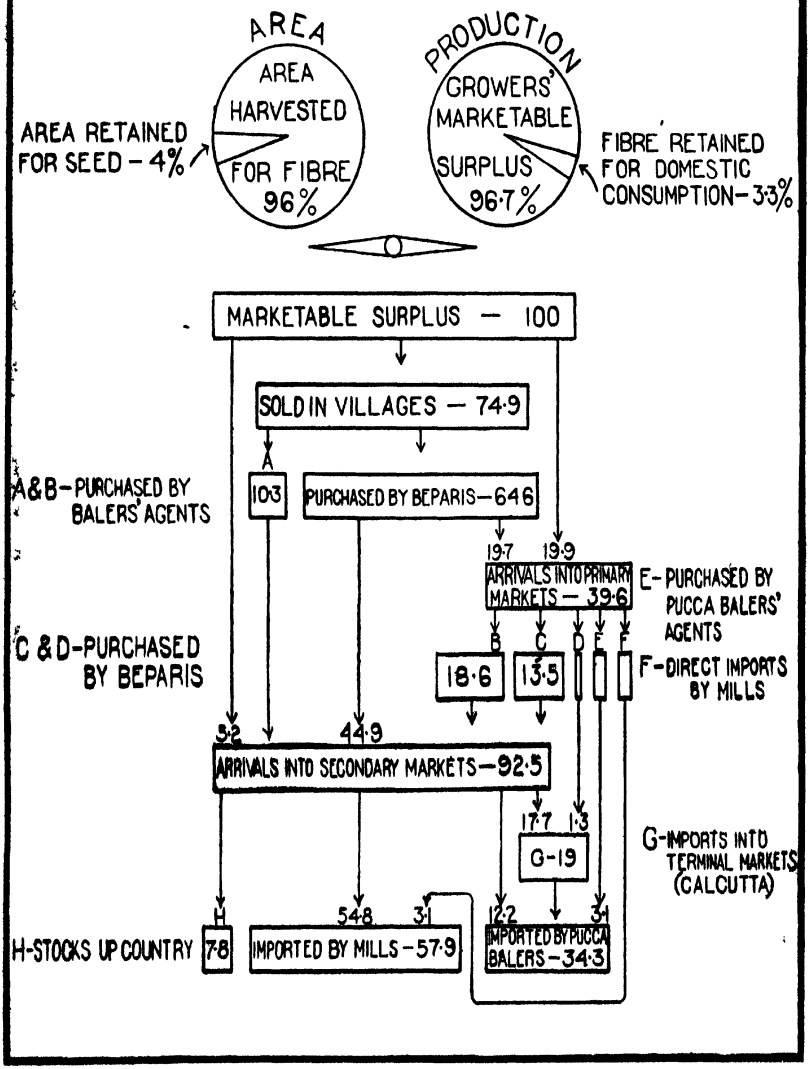
3 Narayanganj, Narsingdi, Chandpur, Serajganj, Gaibandha, Chaumohani, etc., are the instances of prominent markets where this practice prevails side by side with the method of "buying on estimation."



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 *kutcha* 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 *kutcha* 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, *kutcha* balers' own marks or as an average quality called *garsat* in North Bengal and Bihar. The grading done by *kutcha* 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 unassorted condition, lose their identity and, after being packed by the *kutcha* 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 2, infra.

[2] See Ch. III, Sec. C 1, supra.

by the Marketing Enquiry. *Farias* and *beparis* are the principal buyers in villages, but often *kutcha* 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 *kutcha* 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 *kutcha* 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 *daisee* 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.				
,, ,, ,,	baparis,	44.9 ,,	,,	,,	,,	
,, ,, ,,	agents,	10.3 ,,	,,	,,	,,	
,, *hats*, primary markets, etc., ,,	agents,	18.6 ,,	,,	,,	,,	
,, ,, ,,	baparis,	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 *daisee* 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 *aratdars* 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 *kutcha* 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 country-side 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) *Hatkhola*—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 *kutcha* 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 these

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 Baghbazar markets	80	Rs. 51	Rs. 5	
Hatkhola Banijya 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 *kutcha* 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 8, 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 workingtime 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 deteriment 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 deficency. 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 representated 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

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

enforce its rules Nos. 25 and 26, which prohibit the members from tendering or receving 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, bu not beyond June when deliveries must be given and taken i respect to all outstanding contracts. In between the deliver months, however, the contracts may either be kept alive o terminated at any time. In the former case, the contractin parties pay or receive the difference between the contract rat and the 'clearing rate' fixed by the Board of Control on ever alternate Friday. In subsequent settlements, however, th difference between two clearing rates—known as 'margin'—ha to be paid or received through the 'clearing house' maintaine by the Association. The buyers have the option of sendin shipping instructions to sellers for placing the goods alongsid an exporting vessel or of taking delivery in their own godown: In the absence of such instructions, the sellers tender to buyer Delivery Orders in the form prescribed by the Associatior The Delivery Orders, which are for 250 bales each, should b in respect of jute stored in godowns situated within the limit of the Port of Calcutta. They must bear the acceptance of press house owner or agents, or of a bank approved by th Board of Control. This bye-law is intended to prove that th requisite amount of fibre is actually stored in some godown o is hypothecated to a reliable bank.

169. The actual 'First' group marks[1] are the basis of a contracts. Originally, the tenderable marks were those registere with the Calcutta Baled Jute Association, but after the enforce ment from 1st July, 1938, of rules 25 and 26 by that body the tenderable marks in addition to the above are all grou marks approved by the Board of Control, and guaranteed equa in quality and condition to actual first group marks.[2] The seller have the option of delivering substitute marks which are th marks of the Calcutta Baled Jute Association or those approve as substitutes by the Board of Control. When substitute mark are tendered, the sellers have to pay an allowance of four anna 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 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 3/20 of a seer, but in Jiaganj (Murshidabad) it is 2¼ 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 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 weighment. Out of 12 markets where this imposition existed, 11 were situated in the district of Purnea. The rate of deduction varies between ¼ seer per maund in Katihar (Purnea) to 1¼ 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 *zamindars.* 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 7½ 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 *kutcha* 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	Zamindar's toll	Aratdari	Dalali	Koyali	Office expenses	Jachandari	Britti
Begnal													
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	...	...	...	...	3	1	6	...	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	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 artually used in the manner alleged is, however, open to question. Deductions on account of *britti* are made at the rate of 1/3 of a pie per maund in Ramamritganj (Mymensingh) to 7½ 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 allowances
		Dhalta	Kabari	Pasga		Office expenses	Zamindar's toll	Charity	Koyali	Dalali	Aratdari	Total		
Bengal					*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.*	
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	...	..	...	...	...	...	*nil*	25 0 0	5.0
Dinajpur	Raiganj	...	...	...	*nil*	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	56¼ „	...	...	7 0 6	...	...	...	...	...	...	*nil*	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	18¾ „	...	...	2 5 6	...	..	...	...	...	...	*nil*	2 5 6	0.5
Nowgong	Haibergaon	...	...	...	*nil*	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.

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.	
Hatkhola ...	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 *aratdars* are *beparis* from the *daisee* districts. As a rule, these traders borrow from the *aratdars,* free of interest. The creditor *aratdars,* therefore, charge a high rate of commission to compensate themselves for the loss of interest. So that, while *aratdari* is 1¼ 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 *aratdari* 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 *daisee* 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 *aratdars* 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 intermediaris 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 *aratdars* and *kutcha* 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 $1^{9}/_{16}$ to 3⅛ per cent. per mensem. The loans on notes of hand usually carry interest ranging between 6¼ and 12½ 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 $1^{9}/_{16}$ and 3⅛ 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 12½ 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 *aratdars* and kutcha 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 reprecussions in the villages. At present, *aratdars* and *kutcha* 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 *aratdars* 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 *aratdars*, their remuneration depending on the quantity of jute supplied by them. Recently, a tendency has been noticed among the *kutcha* balers of East and North Bengal to send their servants to *hats* and villages to purchase jute for them.

198. Normally, *kutcha* 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 ¾ 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 (*e.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 withdrawl 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 9¾ 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—Kutcha* 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 *kutcha* bales of various weights (1½, 3, 3½, 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 *kutcha* bales ranges from

[1] 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.

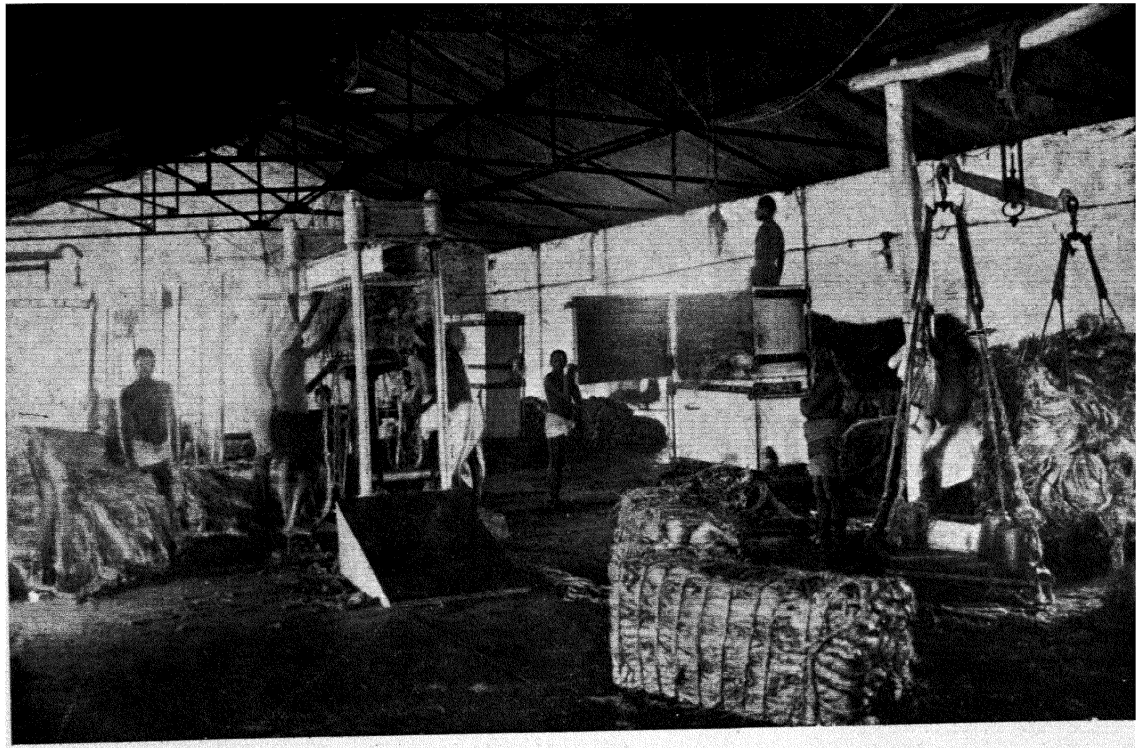
Weights of Kutcha Bales Packed at Secondary Markets

District	Market.	Weight of bale
Nadia	Alamdanga	1½ and 3½ maunds
Murshidabad	Beldanga	1½ and 3½ ,,
Jessore	Magura	3 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 ,,
Mymensingh	Iswarganj	3½ and 4 ,,
	Muktagachha	4 ,,
	Sarisabari	3½ ,,
Faridpur	Madaripur	3½ and 4 ,,
	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 *kutcha* 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, Serajgunge, 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 3½ mds. for these processes was recorded in Beldanga (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 *kutcha* 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 1½ 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 Bridge[1] 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 *kutcha* 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 *kutcha* 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)**

Market	Aratdars' expenses: Unloading and storing	Aratdars' expenses: Weighing at time of sale	Aratdars' expenses: Total	Calcutta balers' expenses†: Loading on carts	Calcutta balers' expenses†: Cartage to press houses	Calcutta balers' expenses†: Unloading and storing	Calcutta balers' expenses†: Weighing	Calcutta balers' expenses†: Total	Total handling expenses: Per 100 mds.	Total handling expenses: Per md.	Remarks
Cossipore.....Rs.	ϕ	Θ	—	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.
Hatkhola... , 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 4 0 φ	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. B 3 (c), supra), their expenses only are given in this table.

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

Θ 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.

φ 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 *kutcha* 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 1¼ 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 Rc. 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 diagram[2] 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 *kutcha* 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 *daisee* 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 Cossipore[1] 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 upcountry[2] and Re. 0-5-2 at Shambazar[3] 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 † or 6.2 §	% of the value of fibre in the case of	73.2% of marketable surplus (sold to mills and presses)
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)
		(7.8% 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 *kutcha* 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 highland 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 Ramamritagunj (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 „ s	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. Chanditolla, Singur and Sheoraphuli (Hooghly), Kalna (Burdwan), Domjur (Howrah), Baliaghatta 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] iled from the statistics published by the Bengal Chamber of

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 transhipment 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 transhipment 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 transhipment 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 „

[1] ** 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 3½ 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 on 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 Railway[1] 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 *kutcha* 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 *kutcha* 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	
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 } Mainat }	0	8	6	0	7	9	
Chandpur	0	9	0	0	8	6	Unchanged at Re. 0-7-3
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 Dooars Railway.

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

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

MAP OF BENGAL

SHOWING

RAILWAY & RIVER COMMUNICATIONS

WITH

IMPORTANT JUTE MARKETS.

(⊙ — TRANSHIPMENT POINTS)



ARRIVALS OF JUTE IN CALCUTTA (1937-38)

52 %	BY STEAMERS
43 ,,	,, RAILWAYS
3 ,,	,, COUNTRY BOATS
2 ,,	,, CARTS & LORRIES

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 Dooars 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 guage, 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 transhipment 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. terminii (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 transhipment 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 transhipment.[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 transhipment 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 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. *pucca* bale—10¼ c. ft.	25 %	0.62 pies
4 „ *kutcha* „ —13½ „	22½ „	0.64 „
3½ „ „ „ —13½ „	20 „	0.66 „
1½ „ „ „ —5.88 „	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 milateer 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
Rajshahi	176	0 8 1	0.54 „	1 8 0	0.40 „
Serajganj 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 „
Bhurrungamari	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
				R. a. p.	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 fromm the *daisee* 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 competiton 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 is 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 1½ 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
						R. a. p.	*R.a.p.*	*R.a.p.*
Serajganj	199	543	3	6—7	10—14	0 7 6	0 7 2	0 4 6
Goalundo	155	475	2	5—6	8—10	0 5 10	0 5 3	0 4 9
Dhubri	340	689	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 *kutcha* 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 *kutcha* 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 5	§ 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 *kutcha* 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 intelligble 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 *kutcha* 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— Tossa	Jat	Hard	" "
	District	Hard / Soft	" "
	North Bengal	Soft	" "
	Western (Bihar)	Soft	" "
	Orissa	Soft	" "
	Jungli	Soft	" "
Daisee	Jat Daisee	Soft	
	District	Soft	

278. The mills in India are the biggest consumers of jute in the world,[2] and they excerise, 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 Calcutta[1] 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 *jat* 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 Bengal[1] 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 Brahamaputra 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, Malda, Rajshahi, Bogra and Pabna 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*) *Jungli*—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 classess.

(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, *daisee* 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 malpracties—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 *kutcha* 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 *kutcha* 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 2 (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) *Kutcha 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 *kutcha* 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 and 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 underestimation 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 *kutcha* balers, 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 Europen packing also increased.

2 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. *Kutcha* 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 *kutcha* 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 *kutcha* 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 *kutcha* 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% *Jat* 20 „ *District*	...	800,000
Bogra	*North Bengal*	4 to 6 annas. below *jat*	400,000
Rangpur	„	„	350,000
Pabna	„	„	150,000
Assam	*Assam*	6 to 8 annas. below *jat*	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 per md.	5 14 0 per md
	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 *kutcha* 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. *Kutcha 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 purlhase 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 *kutcha* baler has a number of distinctive marks by which the various grades he bales may be recognized. It may be pointed out that *daisee* 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 pro cedure 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 *kutcha* 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 ,,	Weft 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 follows[1].

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 erceed 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 he 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 Trimunal 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 requirements[2]. 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	26.8	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 types[1]—

(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) indepenlent, 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 *mofussil* 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 maket, 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 estimatted 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 *kutcha* 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 *kutcha* 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 *kutcha* 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 *kutcha* (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 *kutcha* 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 *aratdars* of Shambazar and Hatkhola markets insure their godowns and stocks against fire. Insurance of stocks in 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—Aratdars,* 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 *aratdars* 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 fibre. 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 3½ per cent. in weight, which it regains to the extent of 1 to 1½ 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 1½ 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 camparatively 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, *farias* & *beparis*	With *aratdars* & 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.

[1] 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	10358	900	950	2000	1283	12.38
1936	8633	800	850	1400	1016	11.76
1937	11272	483	480	500	488	4.33
1938	11895	1000	1550	1600	1383	11.62
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 *kutcha* 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 *kutcha* 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 *kutcha* 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 *fatka* 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 *kutcha* 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]

Jat	Highest price
District	2 to 4 annas below *jat*.
Northern	4 to 6 „ „ „
Dowrah	4 to 12 „ „ „
Assam	4 to 12 „ „ „
Western	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.*
Jat	5 1 0	..
District	4 13 6	0 3 6 below *Jat.*
Northern	4 10 0	0 7 0 „ „
Dowrah	4 7 0	0 10 0 „ „
Western	4 5 6	0 11 6 „ „
Assam	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 *kutcha* 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 *hats*. The exceptionally low prices paid to the growers in Assam may be attributed to the fact that reliable market information is not avialable 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 UPCOUNTRY.

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 *kutcha* 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 *kutcha* 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 *fatka* 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 *kutcha* 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 *kutcha* 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 I,XI 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	*R. a. p.*	*R. a. p.*	*R. a. p.*	*R. a. p.*	*R. a. p.*	*R. a. p.*	*R. a. p.*
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
	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.*	*R. a. p.*	*R. a. p.*	*R. a. p.*
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 inspite 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 *fatka* 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 *kutcha* 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 durings 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. *Kutcha* 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 informaion, 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 *kutcha* baler or his agent, (b) by a grower to a *bepari* who sells to a *kutcha* baler, (c) by grower to *faria* who sells in *hats* to a *bepari* who in his turn sells to the *kutcha* 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 *kutcha* baler. In the first case, the fibre does not take long to reach the *kutcha* 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.

	Market	*District*	*Class of jute*
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. *Kutcha* 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 *kutcha* 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 *kutcha* 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 L, infra.

[2] Table LVI, supra.

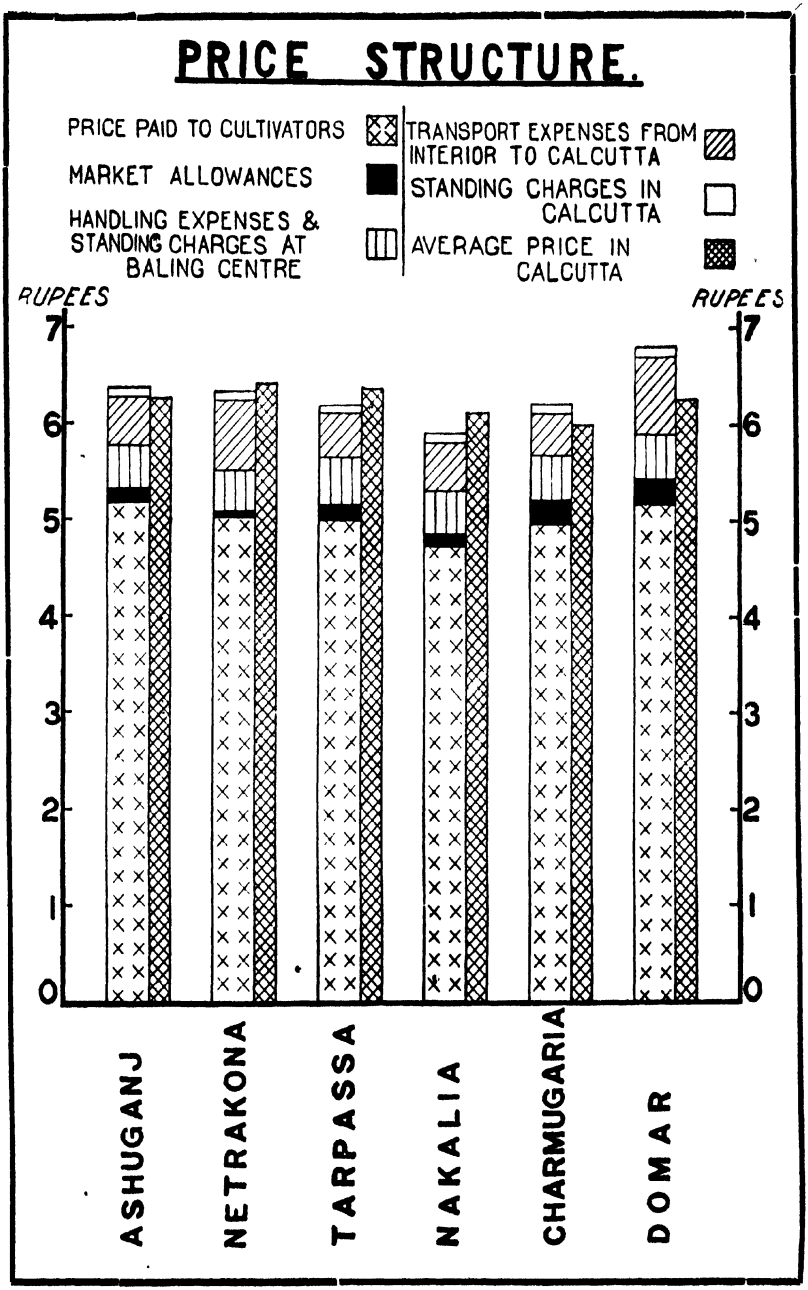

PRICE STRUCTURE.
PRICE PAID TO CULTIVATORS
MARKET ALLOWANCES
HANDLING EXPENSES & STANDING CHARGES AT BALING CENTRE
TRANSPORT EXPENSES FROM INTERIOR TO CALCUTTA
STANDING CHARGES IN CALCUTTA
AVERAGE PRICE IN CALCUTTA
RUPEES
RUPEES
7
6
5
4
3
2
1
0
ASHUGANJ
NETRAKONA
TARPASSA
NAKALIA
CHARMUGARIA
DOMAR

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	0 1 9 (1.7)	0 1 9 (1.7)	0 1 9 (1.8)	0 1 9 (1.9)	0 1 9 (1.8)	0 2 6 (2.3)
3 Market allowances	0 2 0 (2.0)	0 0 10 (0.8)	0 2 9 (2.8)	0 2 0 (2.2)	0 4 0 (4.1)	0 4 4 (4.0)
4. Handling expenses at village and baling centre **	0 1 5 (1.4)	0 2 0 (2.0)	0 1 4 (1.4)	0 1 3 (1.3)	0 1 9 (1.8)	0 1 7 (1.5)
5. Standing charges at baling centre	0 4 0 (4.0)	0 4 0 (4.0)	0 4 0 (4.1)	0 4 0 (4.3)	0 4 0 (4.0)	0 4 0 (3.7)
6. Net freight to Calcutta	0 7 0 (6.9)	0 9 1 (9.1)	0 5 9 (5.9)	0 6 3 (6.7)	0 5 6 (5.6)	0 11 2 (10.3)
7. Standing charges at Calcutta	0 2 0 (2.0)	0 2 0 (2.0)	0 2 0 (2.0)	0 2 0 (2.1)	0 2 0 (2.0)	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 TJ.—16%, and for Domar 3's—5%, 4's—35%, R's.—35% and TJ.—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 *kutcha* balers, both in upcountry makets 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 *kutcha* 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. 328.

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 *kutcha* 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 *kutcha* 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 *kutcha* 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 fulfiling 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 *kutcha* 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 *kutcha* 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 *kutcha* 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 $/_{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 $^{6}/_{16}$,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 *kutcha* and *pucca* balers when packing jute. According to this standard

180 grains Troy (weight of a rupee)	= 1 tola (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	80
	Sarisabari	84 1/8
	Netrakona	85 1/8
	Ramamritaganj	87 1/8
Dacca	Narayanganj	80
	Tarpassa	82
	Narsingdi	88
Rangpur	Rangpur	60
	Gaibandha	90
	Lalmonirhat	96
Tippera	Akhaura	80
	Chandpur	82 1/8
	Ashuganj	88
Faridpur	Rajbari	60
	Gosala	84 1/8
Bogra	Jaipurhat	60
	Sonatola	84 1/8
Malda	Shamsi	101
	Harischandrapur	105
Dinajpur	Thakurgaon	60
	Raiganj	120
24 Parganas	Everywhere	80
Hooghly	Sheoraphuli	80
	Pandua	84
	Ektarpur	86
Jessore	Magura	60
Murshidabad	Lalgola	82 1/8
Bihar		
Purnea	Forbesganj	80
	Kishanganj	96
	Barsoi	110
Assam		
Sylhet	Madhabpur	86
	Fenchuganj	88
Goalpara	Goalpara	80
	Dhubri	84 1/8
	Sapatgram	86
Kamrup	Barpeta Road	86
Nowgong	Haibergaon	86
Orissa		
Cuttack	Kenduapatna	82
	Danpur	
	Salehpur	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	84⅛	80	84⅛
Ashuganj	88	80	88
Baira	84⅛	80	84⅛
Chandpur	82⅛	80	82⅛
Matlabbazar	83	80	83
Narsingdi	88	80	88
Nayergaon	83½	80	83½
Belaba	88	80	88
Haibergaon	86	80	86
Dhubri	84⅛	80	84⅛
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 to 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.

$=$ 111 mds. 4 srs. 7 ch.

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.

$\frac{176,000}{40 \times 40}$ mds.

110 mds.

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, Narsingdi, 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 *kutcha* 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 sandards 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 *Vide* 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 earthern 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 julge 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 Olitotius. 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	6¾	4
Bogra	6	2¾
Pabna	5½	2¼
Dacca	5	3¼
Mymensingh	6	3¼
Tippera	5¼	3
Bihar		
Purnea	4¾	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 2¼ 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 4,067,000 [1] 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* (Olitorius). 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 ¼ 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 (Olitorius) 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 wasa 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]	Export[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	298	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 "propable mills 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	3,4.0
1931—32	865	733	290	275	242	257	619	3,286
1932—33	725	682	286	201	210	228	719	3,152
1933—34	992	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	1,085	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	258	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	5,682
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.	130	1.8
Madras	126	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.[6] 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 compare 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 „
		10,502,000 bales
Average calculated production for corresponding years [1] ...	...	9,990,000 bales

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 B.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, 13,199,488 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 fomer 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 *kutcha* balers in secondary markets. Their operations are responsible for fibre changing hands many a time before it reaches the *kutcha* 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 *kutcha* 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 *kutcha* 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 *kutcha* 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 *kutcha* 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 *kutcha* 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 *kutcha* balers who purchase their requirements from *beparis* and *aratdars*, 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 *kutcha* 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 *kutcha* 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 *kutcha* 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 *aratdars*. *Kutcha* 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 furtures.

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 tc 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 pactically 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 *daisee* 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 *kutcha* 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 *kutcha* 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 *kutcha* 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 *kutcha* 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 *kutcha* 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 transhipment 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, Granding 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 *kutcha* balers. *Beparis* buying in villages and *hats* assess the value of jute by estimating its grade outturn. (289—294). The *kutcha* 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 *aratdars* as well—who water it in order to increase the weight and thereby ensure a larger margin of profit. *Kutcha* 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 *kutchia* 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 *kutcha* 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 *kutcha* 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 *aratdars* and the *kutcha* 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 *kutcha* 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 *kutcha 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 *aratdars* 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 *kutcha* 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 *kutcha* 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 weighment. 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 *banias* 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 *banias* 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 withdrawl 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 Enjuiry, 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 *daisee* 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 *daisee* 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 *aratdar*.

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, *hats* and primary markets either on his own account or on behalf of a baler or *aratdar*.

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 Olitorius 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 *dharas* at the time of sale upcountry.

District ... Fibre of a slightly lower quality than *jat*, 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 *daisee* 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 *bepari* or *aratdar*.

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, *uncha-sat* for 'above average' and *nicha-sat* for 'below average.'

Ghat ... A river landing stage or a ferry terminus.

Ghat charge ... The charge levied for using a *ghat*.

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 *jachandars* (assorters).

Jat ... A term applied to the best quality jute, both Capsularis and Olitorius, 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 *fatka* 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.

Kutcha 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.

Kutcha baler ... The most important intermediate dealer in the jute trade. He purchases unassorted fibre from *farias* and *beparis* upcountry—and occasionally from growers—grades it into the prevailing trade standards and packs it in the form of *kutcha* bales for delivery to mills and presses or for sale in the terminal markets of Calcutta.

Kutcha floor ... A floor of hard beaten earth.

Loose jute ... A trade expression used to describe all jute arriving in Calcutta in the form of *kutcha* 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 C. olitorius. The leaves of this plant are sometime used as a vegetable and have a slightly sweet taste. *Mitha* 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 *morahs* 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 *kutcha* balers in primary and secondary markets.

Padmokata ... Large iron beam scale with wooden or iron pans.

Paikar ... A small-scale peripatetic dealer similar to *beparis* and *farias,* found mostly in North Bengal and Bihar.

Pasga ... A deduction in kind made in order to make good any possible mistake in weighment.

Pat ... 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, *farias* and *beparis* to balers' agents and *aratdars*.

Pubal ... The fibre from the south-east section of Bengal (Bakarganj and lower Faridpur). Better known as *dowrah*.

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 *kutcha* bales.

Seer ... A unit of weight equivalent to 2.05 lb.

Shamla ... Gray coloured fibre from *daisee* 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.

Teeta pat ... A Bengali term used by growers in some areas to indicate C. capsularis, the leaves of which have bitter taste. *Teeta* 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 Olitorius 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 Capsularis 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 *zamindars* and cultivators retaining seed for sowing from the provious 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
	Acres	*Acres*	*Acres*
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 is 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 1½ lac of maunds, distributed as follows.

Northern districts.	
Kheri Sitapur	125,000 mds.
Gonda Basti Gorakhpur Bahraich	25,000 mds.
North-western districts.	
Moradabad Bareilly Bulandshahr etc. etc.	

It was calculated that out of this total, the Cawnpore mills were likely to consume approximately 1¼ lac. mds. and the mill at Sahjanwa (Gorakhpur district) would use about ¼ 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	9,893
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	...
Bahramghat	...	...	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	
Lakhimpur	16,814	14,523	
Namgarh	164	..	
Colonelganj	4 876	136	Mill idle.
Nawabganj	983	...	
Gonda	192	...	
Bahraich	100	..	
Risia	131	...	
Total	27,010	15,159	

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 *pucca bigha.*	
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. (*anties* 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 *pucca bigha*	
		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 *dhalta*.

(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.
		R. a. p.
1. *Aratdari* (commission)—Rs. 1-9-0 per cent.	0 2 6	1 9 0 %
2. *Taula* (brokerage and weighing)—¼ seer per md.	0 1 0	
3. *Palledari* (for loading on the scales and unloading)—4 srs. per cart of 16 maunds.	0 1 0	
4. *Bangi* (sample)—2 srs. per cart.	0 0 6	
5. *Karda* (shortage allowance)—1/8th sr. per md.	0 0 6	
6. *Dharmada* (charity)—1 pice per md.	0 0 3	9 9 2 „
7. Temple Mahadeo—2 pice per cart.	0 0 ¾	
8. *Dana* (for buyer's men)—2 pice per cent.		
9. Weighing at 42 srs. per md.—i e. 2 srs. per md. extra.	0 8 0	
10. *Dhalta* (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 *kutcha* bales of 1½ 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	
			R. a. p.			*R. a. p.*			*R. a. p.*			*R. a. p.*	*R. a. p.*
East Bengal													
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 11 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	Febtuary	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	6.61	...	...	...	...	...	...
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	50.00	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. octori 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 6¼ 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)	69	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)					
Gulabbagh	*	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 avreage					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			*R. a. p.*	
Khalilabad (Tippera)	Chandpur	2½	0 0 6	2.4
Mirpur (Tippera)	Kuthi	3	0 0 6	2.0
Rajnagar (Dacca)	Singair	4	0 0 9	2.2
Zamindar hat (Noakhali)	Chaumohani	4½	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	3.0
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
Matbarchar (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			*R. a. p.*	
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			*R. a. p.*	
Ampora (Sylhet)	Sunamganj	4	0 1 0	3.0
Balaganj (Sylhet)	Fenchuganj	8	0 1 0	1.5
Samserganj (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			*R. a. p.*	
Marsaghai	Danpur	20	0 2 6	1.5
Marsaghai	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)

From		To	Distance (miles)	Type of road	Rate per standard maund			Cost per mile per maund (in pies)
East Bengal					*R.*	*a.*	*p*	
Jurain	(Dacca)	Dacca	2½	Metalled	0	1	0	5.0
Samantopur	(Dacca)	Joydevpur	1½	Kutcha	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					*R.*	*a.*	*p*	
Matigara Hat	(Siliguri)	Siliguri	4	Metalled	0	1	0	3.0
Khulsi	(Rajshahi)	Naogaon	8	do	0	2	9	4.1
Bargachhi Hat	(do)	Rajshahi	13	9 miles metalled	0	2	9	2.5
Jamalpur	(Dinajpur)	Sibganj	2	Kutcha	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)	Lalmonirhat	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					*R*	*a.*	*p.*	
Chanditala	(Hooghly)	Bandar Bil	3	Kutcha	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)					*R.*	*a.*	*p*	
Mojabari		Kishanganj	6	Kutcha	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					*R*	*a.*	*p.*	
Durganagar	(Sylhet)	Mantala	2½	Kutcha	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					*R.*	*a.*	*p.*	
Nischintakali		Kendupatna	3	Kutcha	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.
		R. a. p.
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
Fulchari 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 $\frac{\text{Bought}}{\text{Sold}}$ by your order and for your account $\frac{\text{from}}{\text{to}}$

Crop 19 19 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. ($82\frac{2}{16}$ lbs.)
Rs.....as....for....per Calcutta Bazaar Md. ($82\frac{8}{16}$ lbs.)
Rs.....as....for....per Calcutta Bazaar Md. ($82\frac{10}{16}$ 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 weighment 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 weighment 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 weighment.

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 consitute 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 prescibed, 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—16%, 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 Countries[1]

(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	604	865	725	902	932	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	132	188	84	81	2.4
Egypt	88	84	50	30	50	46	69	87	25	49	1.5
China	45	44	50	57	59	68	70	77	86	38	1.5
Argentine	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	4,193	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, Uraguay, Chile and Madagascar.

Source—Annual Statement of the Sea-borne Trade of British India.