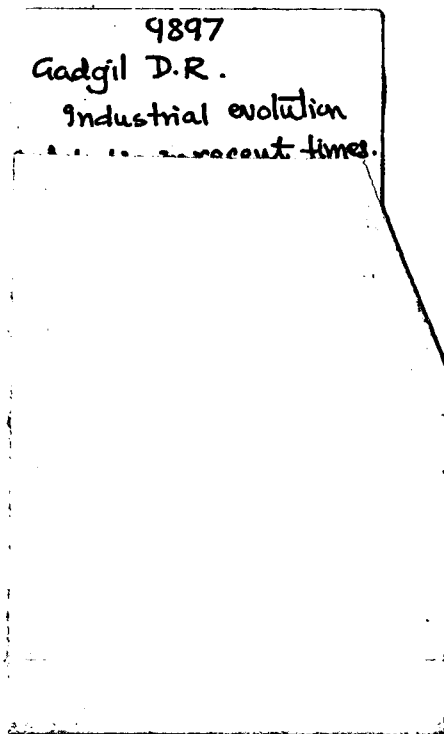


9897



SERVANTS OF INDIA SOCIETY'S LIBRARY,  
POONA 4

Cl. No. X9.2/93      Date of release for loan  
Ac. No. 9897

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

*Failure to comply will involve cancellation of the  
Borrower's Card and forfeiture of deposit.*

~~19 SEP 1961~~

17 APR 2004

~~8 APR 1963~~

~~24 MAY 1963~~

~~13 OCT 1963~~

~~12 FEB 1964~~

~~896117H E~~

~~13 MAY 67~~

26 DEC 1968

23 MAY 1969

9 JUL 1969

**THE INDUSTRIAL EVOLUTION OF INDIA**

**Dhananjayaree Gadgil Library**



**GIPE-PUNE-009897**

THE INDUSTRIAL EVOLUTION  
OF INDIA IN RECENT TIMES

BY

D. R. GADGIL

M.A., M. Litt. (CANTAB.)

Director, Gokhale Institute of Politics  
and Economics, Poona

OXFORD UNIVERSITY PRESS  
LONDON BOMBAY CALCUTTA MADRAS

*First edition 1924*  
*Second edition 1929*  
*Third edition 1933*

X 9.2  
G3  
9897

## NOTE TO THE THIRD EDITION

A NUMBER of statistical tables have been enlarged and some new matter has been added in the last chapter to bring the book up to date. Otherwise no important changes have been introduced in this edition.

June 1933

D. R. GADGIL

## PREFACE TO THE SECOND EDITION

ONLY a few changes, mostly of an unimportant character, have been made in the reprinting of the first edition. I have omitted the Bibliography as it was already disproportionately long and would have become much longer if I had tried to bring it to date.

It was necessary in bringing out a second edition to continue this sketch of Indian Industrial Evolution to the present; and I have done this by adding a new chapter dealing with all aspects of the period after 1914. I have chosen this course, as to incorporate the new material at various places in the old chapter would have entailed too great an overhauling of the original text. The extent, then, of the modification of conclusions, etc., necessitated by the events of the War and post-War periods, is indicated in the new additional chapter, the main body of the work being still a sketch of evolution up to 1914.

I have to thank many friends for help in the preparation and printing of this edition; amongst these, I must make particular mention of Mr. S. R. Deshpande, B. Litt. (Oxon), of the Bombay Labour Office. He has rendered me invaluable service by bringing to my notice various publications and by making many valuable suggestions and criticisms.

## PREFACE TO THE FIRST EDITION

THE work now published was first written as a thesis for the degree of Master of Letters of Cambridge University. It is printed here—except for a few verbal alterations—almost in the same form as the thesis. What has been attempted in the

following pages is a sketch of the economic history of India from the fifties of the last century to the beginning of the War in 1914. I have not brought this sketch up to date, mainly because of the fact that the shock imparted by the War to the economic equilibrium of the world has been very great; and the conditions obtaining even to-day are not normal enough to enable us to measure accurately the effects of the events of the last decade.

The subject is a wide one; and yet the only dramatic event in this economic transition is, perhaps, the decline of the old handicrafts. The collapse of these was indeed sudden and complete. In other respects the events move on with a slow pace and a dull monotony. The most considerable change has been in the scope and methods of commerce—a change brought about by the great development of the methods of transport, especially since the fifties of the last century. This great development of transport facilities during the latter half of the nineteenth century has, indeed, been put forward as a reason for the slow and one-sided progress of the industrial evolution in India. It might well be argued that a less rapid spread of the means of communication might have given a breathing-space to the old handicrafts in which to readjust their organization and their methods to the new conditions. On the other hand, it might be said that this would have meant only stagnation. In the domain of agriculture the most considerable change has been the commercialization of agriculture. But the really serious aspect of the question is the problem of population. The burden on land seems, if anything, to be increasing, as is evidenced by the steady proportion of the food-grain area in the total area cultivated, in spite of the rapid increase, during the last few decades, in the area of land under the plough. This fact also saliently brings out the close connexion between agricultural and industrial prosperity, and the necessity of a greater impetus to the growth of industries for relieving the pressure on land. The chief progress in the industries was made by two factory industries and one plantation industry. Otherwise the progress is small, disconnected and decidedly one-sided. It must be here pointed out that we have no reason to believe that the economic conditions obtaining in India are very different from those which

obtained in the west in former times. I have tried to show, especially in the remarks about the scarcity of factory labour and in the chapter on the organization of urban industries, that the lines of evolution have been the same as have been noticed in most countries of the west. The future is not so rosy as one would like to believe. A sudden growth of industries, such as took place in many European countries during the nineteenth century, seems improbable. The progress will be slow. No big industries requiring complicated machinery or a thorough use of by-products are likely to spring up. The chief direction of the progress will be that of the accessory industries and industries chiefly connected with agricultural operations or with the further working up of raw agricultural produce grown in the country.

The subject I have chosen is a very wide and a difficult one and I found it impossible to treat it with any fullness within the space usually permitted for a thesis. Consequently, I have had to omit many important aspects, e.g., the growth of banking, from consideration, and also to be satisfied with a mere mention of many other questions. I have attempted to sketch briefly the course of recent economic history, and to estimate the nature and extent of the changes in organization of Indian agriculture and industry. I can lay no claim to any novel views or even originality of treatment. My only excuse for embarking upon such a difficult task is the almost entire absence of any works on the recent economic history of India; and I shall feel amply repaid if this work induces some abler student to take up this neglected but all-important question.

I cannot fully express in words what I owe to Mr. H. D. Henderson of Clare College, Cambridge. It was entirely owing to his kind encouragement that I undertook the work, and his criticism and suggestions have always been of the greatest value. I have likewise to thank Mr. W. S. Thatcher of Fitzwilliam Hall for some valuable suggestions. My thanks are also due to my friend, Mr. J. V. Joshi, for his help with regard to the publication of this work.



## CONTENTS

PART	PAGE
I. INTRODUCTORY ... ..	1
II. THE AGRICULTURIST 1860-80 ... ..	13
III. THE DECLINE OF HANDICRAFTS ... ..	32
IV. THE BEGINNINGS OF MODERN INDUSTRY ... ..	46
1. The Plantations ... ..	46
2. The Factory ... ..	53
V. THE AGRICULTURIST 1880-95 ... ..	61
VI. GROWTH OF INDUSTRY 1880-95 ... ..	74
VII. THE AGRICULTURIST 1895-1914 ... ..	88
VIII. INDUSTRIAL PROGRESS 1895-1914 ... ..	102
IX. RAILWAYS AND IRRIGATION ... ..	126
1. Railways ... ..	126
2. Irrigation ... ..	132
X. GROWTH OF TOWNS ... ..	138
XI. THE TRANSITION IN AGRICULTURE ... ..	152
XII. THE COUNTRY ARTISAN ... ..	163
XIII. THE ORGANIZATION OF URBAN INDUSTRY ... ..	178
XIV. THE PRE-WAR PERIOD—CONCLUSION ... ..	188
XV. THE WAR AND AFTER ... ..	200
1. The Agriculturist ... ..	200
2. Industrial Development ... ..	229
3. Labour ... ..	284
4. The Town and Country Artisan ... ..	297
5. Railways ... ..	304
6. Conclusion ... ..	309
APPENDIX ... ..	319
INDEX ... ..	321

## APPENDIX

### *A Note on a Weekly Market<sup>1</sup>*

THE importance of a fair was considerable, even in the old Indian economy, and it grew with the construction of good roads. The following account of a weekly market in a district of the Central Provinces, just after road-building had vigorously begun, will illustrate some points discussed in chapter XII.

'An important article in the trade in Chinmoor which finds its way to the weekly fair . . . is the manufacture of coarse cloth, which is entirely in the hands of "Dhers",<sup>2</sup> . . . The cloth is coarse and strong and is in great favour among the Koonbee cultivators of Berar . . . whom the comparatively flimsy but smart-looking English-made cloth does not suit. . . . That the trade has not been much affected by the high prices of raw cotton is probably accounted for by the fact that the price of cloth, if it has not risen quite in proportion to the increase in the price of the raw material, has yet risen considerably. It is bought in larger quantities than ever by the prosperous Koonbees.'

Notes were taken by Mr. Rivett-Carnac of the stalls held by different traders. Of a total of 1,404 stalls the most important were:—

521 Cloth sellers (110 'Koshtees', weavers of fine native cloth; 350 'Dhers', selling coarse cloth of their own manufacture).

130 Provision sellers (75 molasses, 'gur', 30 salt, 34 fish).

160 Vegetable sellers.

96 Grass sellers.

75 Sellers of iron (tyres for cart wheels, plough-shares, axes, etc., in large quantities).

70 Oil and oil-cake sellers.

65 'Pansarees' or grocers.

There were only thirty grain stalls, but there were also twenty-five cart-loads of raw cotton 'from which Dhers who may have been successful in selling their cloth supply themselves with next week's work of spinning and weaving'. It should be noted

<sup>1</sup> Extracts and figures taken from the description of this fair by Mr. Rivett-Carnac, *Report of the Cotton Department for the Year 1867-68*, pp. 28-31.

<sup>2</sup> Not a proper weaver caste but a low caste of village menials, corresponding to the 'Mahar' of the Bombay Deccan.

that of the 350 coarse weavers only forty-four were regular traders. 'The remainder were of a poorer class, who brought small bundles of cloth on their back and whose sales were small.' The influence of the constitution of the village community is apparent. There are seventy-five sellers of iron in large quantities; these were the traders who distributed the supply of iron for cart-wheels and plough-shares throughout the country; there were similarly fifteen stalls of carpenters with stores of unworked wood for carts; there were only fourteen stalls of shoe or leather sellers and only three sellers of earthen pots.

Mr. Rivett-Carnac observes with regard to the popularity of country cloth, 'This, it must be remembered, is but one of the many places to which the peasantry flock for the cloth made by the Dhers'.

## INDEX

- Acids, production of, 277-8  
Administration, centralization of, 147  
Agra, 5, 6, 20, 24, 36, 121, 142  
Agricultural Department, 69, 97-8, 100, 210, 211, 212  
Agricultural implements, 90, 162, 211  
Agricultural produce, demand for, 64, 210, 229; export of, 63, 229  
Agriculture, commercialization of, 153-5, 214; improvement of, 66 *seqq.*, 97 *seqq.*, 210-3. *See also* Crops, Cultivation, Famines, Land.  
Agriculturist, *see* Peasantry.  
Agriculturista' Improvement Act, 71, 220  
Agriculturista' Loans Act, 71, 221  
Agri-Horticultural Societies, 68  
Ahmedabad, 33, 36, 76, 81, 86, 117, 124, 148, 150, 169, 243, 286, 293, 309  
Aligarh lock industry, 298  
Allahabad, 6, 128, 149, 298, 309  
Alkalies, production of, 278  
American Civil War, 14, 15, 17  
Amritsar, 33, 144, 185, 233  
Aniline dyes, 34, 170  
Artisans, co-operation amongst, 224.  
*See* Industry, Handicrafts  
Arts, attempts at revival of, 43  
Assam, 9, 49, 51, 79, 147, 270, 302  
BAJRA, 87, 96, 201, 215  
Bank failures, 233  
Banking, 193, 315. *See* Co-operative Banks.  
Barakar Works, 112, 259  
Bareilly, 298, 299  
Beet-sugar, imports of, 116  
Benares, 6, 18, 33, 35, 149, 309, 310  
Bengal, 3, 7, 9, 24, 33, 43, 47, 48, 51, 54, 56, 57, 61, 62, 65, 77, 78, 82, 83, 84, 86, 87, 89, 91, 93, 95, 96, 107, 116, 117, 120, 122, 126, 138, 139, 145, 172, 173, 192, 203, 209, 213, 223, 291, 301, 302.  
*See also* East Bengal.  
Bengal Chamber of Commerce, 86  
Bengal Iron Co., 259, 263-4, 272  
Bengal Nagpur Railway, 256  
Berar, 62, 63, 64, 66, 88, 91, 128, 147, 154, 214, 216, 217  
Bihar and Orissa, 24, 48, 89, 93, 145, 150, 200, 266, 272, 276  
Blacksmith, 163, 164, 167-8, 300  
Bombay City, 18, 19, 20, 28, 54, 55, 68, 75, 76, 78, 81, 82, 84, 85, 86, 103, 117, 124, 125, 128, 138, 145, 147, 169, 184, 198, 232, 240, 241, 242, 243, 244, 245, 259, 281, 286, 292, 293, 309, 310, 317  
Bombay Deccan, 2, 3, 87, 133, 134, 135, 137, 225, 227. *See also* Deccan.  
Bombay Presidency, 16, 18, 25, 26, 28, 29, 35, 54, 58, 76, 81, 83, 85, 90, 91, 93, 100, 117, 139, 149, 156, 173, 175, 200, 203, 211, 217, 222, 228, 233, 258, 280, 287, 288, 299, 317  
Bombay Small Holdings' Bill, The, 225  
Bourgeoisie, rise of, 40  
Brass and copperware industry, 183-4  
Brick and tile industry, 80, 119, 283, 284  
British rule, establishment of, 1, 2, 14; effects on handicrafts of, 38 *seqq.*  
Bundelkhand, 134, 135, 158, 220, 225  
Burma, 12, 78, 88, 91, 95, 110, 117, 131, 145, 147, 154, 202, 217, 222, 252, 253, 270, 271, 277, 301. *See also* Upper Burma.  
CALCUTTA, 51, 56, 57, 68, 69, 81, 86, 106, 122, 123, 124, 128, 145, 147, 148, 150, 156, 280, 281, 286, 298, 309, 312, 316  
Canals, 126, 132, 133, 134, 136, 226, 227, 228  
Canal colonies, 134, 217  
Capital, accumulation of, 192; competition for, 193; external, 314; of Joint-Stock companies, 233, 234  
Carnatic, 26, 128, 223  
Carpenter, 163, 164, 166, 167, 168, 169, 300  
Carpet industry, 185  
Cattle, census of, 213; deterioration in quality of, 213-4; famine

- mortality of, 24, 25, 91-2; improvements of breeds of, 70, 213; position in various provinces of, 213, 214
- Cauvery, 227
- Cawnpore, 121, 123, 128, 138, 144, 148, 149, 169, 243, 280, 296, 312
- Cement industry, 230-1
- Census results, accuracy of, 140
- Central India, 7, 91, 143
- Central Provinces, 4, 16, 17, 45, 55, 57, 58, 63, 87, 90, 91, 92, 93, 99, 111, 131, 145, 146, 149, 158, 169, 172, 173-4, 200, 203, 211, 222, 223, 225, 260, 303, 319
- Central Provinces Land Alienation Act, 220
- Ceylon, 70, 115, 161, 202, 245, 254, 273
- Chemical industries, 112, 113, 277, 316
- Chemicals, demand for, 277-8
- Chenab, 227
- Chhattisgarh, 63, 128, 220
- Chile Nitrates, 45, 273
- China, 15, 115, 208, 231, 244, 273; yarn market, 75, 103, 104, 105, 231, 236, 238, 244
- Chota Nagpur, 45, 135, 139
- Chromite, 252
- Cloth, high prices of, 203, 237; home demand for, 237, 239, 240
- Coal, coking, 266; consumption on railways, 108, 109, 257-8; embargo on, 254, 255; exports of, 58, 78, 108, 254, 255, 256; imports of, 58, 78, 108, 109; use of substitutes for, 259, 271. *See also* Power, Railways.
- Coal Grading Board, 257
- Coal Mining Industry, 57, 58, 77, 78, 107, 108, 109, 254, 255, 256, 258; average size, 255, 256; increasing costs, 258; labour, 83, 87, 123, 255, 295, 296, 297; loss of export markets, 256; position in the home markets, 254, 258; use of machinery, 110, 255, 258
- Coal tar, 266, 267
- Cochin, 277
- Coffee plantations, 52, 78, 114, 119, 283; labour on, 52
- Coffee, exports, 52, 79, 114
- Co-operative Banks, 221, 222
- Co-operative Credit Societies, 100-101, 158, 223-4, 225
- Co-operative movement, 217, 221, 222, 223, 224; organisation, 221-2; position of Registrar, 222; progress, 222-4, 225; spirit in forming the, 224-5
- Co-operative production, 223, 224
- Co-operative Sale Societies, 223
- Co-operative Societies' Act, 101, 221, 222
- Co-operative Unions, 221-2
- Coorg, 52, 79
- Copper, 253
- Cottage industries, 299-304
- Cotton and Grain Markets Law, 216-17
- Cotton, handloom industry, extent and production, 32-3, 171-4, 299-302; organization, 179-83, 297-8, 302. *See also* Handicrafts, Weavers.
- Cotton, factory industry, 53-55, 74-6, 103-6, 235-49, 283, 284; effect of exchange fluctuations, 238-240; localization, 54, 76; position of the Bombay industry, 242-7; protection, 247-8; spinning and weaving sides compared, 104-5; tendency towards production of finer counts, 75, 104-5, 237; tendency towards greater piece-goods production, 75, 104-5, 237. *See also* Factory, Industry, Labour, Wages.
- Cotton Gins and Presses, 55, 80, 85, 117, 118, 120, 283, 284
- Cotton piece-goods, exports, 105, 106, 236, 244, 245; home demand, 240, 242; imports, 232, 233, 236, 237, 238, 239, 241; production, 236, 237, 241, 247, 248, 251, 252. *See* Cotton, Factory industry.
- Cotton, Raw, 210, 248; area under, 15, 17, 87, 96, 201, 207, 208, 213; cultivation of, 14, 15, 17, 62, 63; improvements of, 69, 72, 98, 211; internal trade, 62, 63; marketing, 154, 155, 215-7
- Cotton Sale Societies, 217, 223
- Cotton Transport Act, 211
- Cotton, Yarn, exports, 75, 76, 103-5, 236, 237, 244-5; imports, 242, 244, 246, 247. *See* Cotton, Factory industry.
- Courts, connection with urban handicrafts, 7-9, 37-8
- Crimean War, 56
- Crops, improvement and standardization of varieties of, 210-11; localization of, 65, 66; marketing of, 154, 155, 214, 215; variations due to famines, 92-93; variations

- in area of, 65, 94-7, 205-9, 212.  
*See also* Agriculture.
- Cultivation, area under, 65, 94, 201, 205; extension of, 213-14, standard of, 66, 67
- Currency, deflation, 235; inflation, 230, 235
- Cutch, 85, 41
- Dacca, 6, 7, 30, 66, 81, 87, 145, 156, 157, 203, 214, 216
- Damaacening industry, 35, 41
- Deccan, 6, 7, 30, 66, 81, 145, 156, 203, 214, 215. *See also* Bombay Deccan.
- Deccan Agriculturists' Relief Act, 31, 156, 157, 219
- Delhi, 19, 24, 121, 128, 142, 146, 149, 233, 298, 309
- Dhara, 175, 319
- Dundee, 66, 82
- Dyer, 166, 170-171, 300
- EAST AFRICA, 106, 245**
- East Bengal, 144, 147, 149, 154, 173
- East India Company, 4, 14, 19, 32, 46, 47, 49, 66, 68, 132
- East India Railway, 57, 256, 286, 305, 306
- Electric power, 283. *See also* Hydro-electricity.
- Engineering industry, 263, 269, 283, 284; workshops, 80, 117-19
- Epidemics, 27, 145
- European officials' demand for artistic wares, 41
- European manufactures, competition with handicrafts, 13, 42
- Exchange fluctuations, aggravate depression, 231-2, 235; encourage imports, 231; intensify boom, 230, 231
- FACTORY industry, beginnings, 53; extent, 118-19, 283-4; hours worked, 84-7, 120-2, 284-5, 286, 290; one-sided development, 119, 282, 285; sanitation and ventilation, 65-6, 194. See also Industry.**
- Factory legislation, 82-4, 120, 121, 285, 288-9. *See also* Labour.
- Factory system, in urban handicrafts, 182, 185-7
- Fairs, 319
- Famines, 24-7, 64, 88, 89, 90-92, 93, 200-3; change in the nature of, 22-3; effect on agricultural improvement, 27, 92-3; effect on industries, 102-3; effect on population, 26-7; effect on urban growth, 142; effect on village artisans, 176; lack of fodder during, 24, 25, 92; lessening intensity, 152-3, 203; relief administration, 25, 88, 91, 92, 93, 201-3
- Farms, experimental, 70, 71
- Ferro-manganese, 260, 263, 272
- Fertilizers, 212, 273
- Fudatory States, 37, 38, 40, 127
- Field embankments, 136
- Fiscal Commission, 311-12
- Floods, 203
- Fodder crops, 87, 96, 201, 209, 214
- Food-grains, area under, 65, 87, 94-6, 201, 205; exports, 95, 201, 205; imports, 201, 203; prices, 6, 22, 64, 94
- Foreign exchange movements, 230-2, 235
- Foundries, 80, 118, 119, 263, 264
- Fragmentation of land, 159-61, 225-6
- Franco-German War, 28, 34, 54, 59, 63
- Fuel-oil, 259, 271
- GANGERS, 3, 132, 133, 143**
- Glass Industry, 45
- Godavari, 133, 227
- Gold-mining, 111, 119, 274, 283
- Gold and Silver Thread Industry, *see* Wire and Tinsel.
- Government of India, 14, 16, 28, 83, 96, 194, 196-7; agricultural policy, 67, 73, 97-100, 210-12, 220-21; control over economic activity during the war, 201, 203, 229, 249, 250, 254, 255, 263, 266, 268, 269, 273, 274, 281, 304; control over the Co-operative movement, 221, 222, 224, 225; currency and exchange policy, 230, 231, 235; fiscal policy, 311, 312, 313; industrial policy, 196-7, 310-13; protection to industries, 246-7, 263, 265, 268, 281-2
- Government's Provincial assistance to industries, 303, 312-13
- Grain loans, 215, 216, 217
- Grazing lands, encroachment by cultivation, 213-14
- Great Indian Peninsula Railway, 58, 306

Ground-nut, 96, 99, 207, 208, 210, 211, 214

Guilds, 36, 41

Gujarat, 6, 66, 92, 121, 128, 131, 139, 184, 192, 203, 211, 214, 223

Gur, 62, 116, 209

HANDICRAFTS, 32 *seqq.*, 178-87, 297-9; attempts at revival, 43; causes of decline, 37-43; division of labour in, 35-6; effect of decay on towns, 144-5; localization, 36; organization, 36-7, 178-87, 297-8. *See also* Courts, Guilds, Industry, Towns.

Hides and Skins, 59, 60, 80, 169, 170

Holdings, economic, 159, 225; consolidation of, 223, 225

Hooghly, 133, 150

Housing conditions, 122, 123, 125, 145, 295-6

Hubli, 129, 149

Hyderabad, 35, 309. *See also* Nizam's Dominions.

Hydro-electric power, 195, 259, 316-17

INDEBTEDNESS, *see* Peasantry, Indebtedness of

Indian Iron and Steel Co., 264

Indigo, cultivation, 46-9, 96, 113, 209; industry, 46-7, 80, 113

Indus, 3, 135

Industrial boom, post-war, 230, 231-2, 233-4

Industrial census, 119, 282, 284

Industrial Commission, 311

Industrial cycles, 233

Industrial depression, post-war, 229, 230, 232-5

Industrial progress, future outlook, 198-9, 316-17; indexes to, 179; necessity of all-sided, 198; obstacles to, 191 *seqq.*, 315; present position, 189-90, 316-17; State policy and, 196-7, 313

Industry, absence of localisation, 11; artisan system in, 179 *seqq.*; connection with urban growth, 142, 150; Domestic or Commission system in, 181; European enterprise in, 53; stages in progress, 188; two-folded division, 44; rural, 165-7, 175-7, 299-304; urban, organization, 178-9, 297-9.

*See also* Courts, Government, Handicrafts, Factory industry, Labour, Towns, Village, War.

Influenza, 314

Inheritance laws and subdivision of land, 160, 161, 225, 226

Irawaddy, 143

Iron and Steel Industry, 112, 195-6, 260-9, 283, 284, 313; establishment of allied industries, 267-9; finished steel products, production, 261, 265, 266, 267; pig iron, production and export, 261, 264, 265, 266, 267; raw steel, production, 261, 264-7; State help, 263, 264-5, 266, 270

Iron-smelting, old industry, 45

Irrigation, 65, 126, 132-7, 226-9; economic effects, 137; limits to extension, 135-6, 228; major and minor works, 134, 226, 228; private works, 136; productive works, 135, 226; protective works, 133, 134, 135, 226, 227; works constructed by Government, 132, 133, 134, 135, 136, 227-8

JAMSHEDPUR, 141, 150, 253, 265, 267, 268, 278, 286, 309, 316

Japan, 75, 76, 104, 231, 238, 243, 243, 264

Japanese cotton industry, 76, 238, 239, 241, 242, 243, 245

Jawar, 86, 96, 201. *See also* Millets

Jhelum, 227

Joint Stock Companies, 233, 234

Jubbulpore, 84, 128

Jumna, 90, 132, 133

Jute. factory industry, 56-7, 76-7, 106-7, 197, 249-51, 283, 284; exports, 107, 251; short time agreements, 76, 250

Jute, handloom industry, 56

Jute pressing, 57, 80, 283, 284

Jute, raw, 211; area, 87, 96, 201, 209; exports, 249; Indian mills consumption, 249, 251; marketing, 217; prices, 249, 250. *See also* Labour, Wages.

KARACHI, 109, 128, 131, 148, 198, 259, 296, 309

Karnatic, *see* Carnatic

Kashmir, 35, 38, 302

Kashmir shawl industry, 34, 39

- Kathiawar, 88  
 Kaveri, 133  
 Kerosene, 110, 170, 270-1  
 Khandesh, 123, 154, 211, 214, 216, 217  
 Khandesh gins, 85, 86, 120  
 Kolar mines, 78, 111, 274  
 Koleroon, 133  
 Konkan, 70, 81, 125, 225
- LABOUR**, agricultural, material condition, 64, 189-91; scarcity, 261; wages, 20, 152, 292-4  
**Labour**, casual, 19  
**Labour**, industrial, condition of, 81 *seqq.*, 120 *seqq.*, 284 *seqq.*; efficiency, 194, 315-16; recruitment, 81-2; scarcity, 122 *seqq.*, 294-7; stages in severance from land, 123-5; standard of life, 293-4  
**Labour**, landless, 142, 159, 167, 176-7, 225, 226. *See also* Coal mines, Coffee plantations, Factory, Housing, Industry, Mines, Tea plantations, Wages  
**Labour movement**, 285-8  
**Labour Unions**, *see* Trade unions  
**Lac manufactories**, 80  
**Lahore**, 35, 149, 309  
**Lancashire Cotton Industry**, 15, 75, 104, 105, 143, 232, 235, 238, 239  
**Land**, pressure on, 44, 162, 191, 222, 226, 374  
**Land-transfer**, economic effects, 158-9; extent of movement, 158, 219-20; legal restriction and its results, 30-31, 156-8, 219-20, 225; results of non-restriction, 29-30, 156-7, 218  
**Land holders**, material condition, 89, 90  
**Landlord village**, 61, 62  
**Land Revenue Assessments**, 3, 21, 155  
**Land tenures**, 61, 62  
**Lead**, 277, 299  
**Leather work**, 40, 41  
**Leather works**, 280. *See* Tanning industry.  
**Leather worker**, 164, 266. *See also* Tanner.  
**Limestone**, supplies of, 266, 281  
**Linseed**, 96, 207, 208, 310  
**Livestock statistics**, 213  
**Locomotives**, production in India, 268  
**Lucknow**, 9, 83, 138, 144, 149, 309
- MACHINERY**, extended use in industry, 118, 119, 303  
**Machinery**, demand in war and post-war period, 229, 231, 232  
**Madras City**, 59, 68, 120, 121, 128, 138  
**Madras Presidency**, 3, 17, 18, 21, 24, 25, 26, 28, 59, 63, 79, 80, 91, 93, 98, 99, 111, 117, 120, 126, 135, 161, 169, 172, 186, 195, 203, 222, 225, 259, 277, 295, 311  
**Madura**, 83, 148, 171  
**Mahar**, 164, 169  
**Malabar**, 79, 81, 99, 203, 302, 303  
**Manchester Chamber of Commerce**, spinning inquiry, 75  
**Manganese industry**, 111, 112, 271  
**Manganese Ore**, 252, 271, 272  
**Markets**, for agricultural produce, 154, 215, 217; problem of finding, 197-8  
**Match industry**, 281, 284  
**Meerut**, 149, 298, 303  
**Metal handicrafts**, 35  
**Metallurgical industries**, 253; lack of, 112, 195, 196, 315  
**Mica industry**, 112, 252-3, 272-3  
**Millets**, 93, 200. *See also* Bajra, Jawar.  
**Minerals**, one-sided development, 112, 252, 316; production, 107, 252-3  
**Mines Act**, 290, 291  
**Mines**, labour in, 290-91; underground working of women in, 86-87, 290-91  
**Mirzapur**, 7, 62, 143, 185  
**Money-lenders**, 100, 215-16, 219; power over peasants, 29-30, 156-9. *See also* Land, Peasantry  
**Munitions Board**, 310  
**Munitions**, demand for, 229, 252, 272, 273, 277, 310  
**Murshidabad**, 33, 138, 145  
**Muslin**, 13, 33  
**Mustard seed**, 96, 207, 208  
**Mutha canal**, 66, 137  
**Mysore**, 25, 26, 45, 79, 111, 135, 200, 302
- NAGPUR**, 62, 128, 149, 243  
**Narbada Valley**, 143  
**Native States**. *See* Feudatory States  
**Nilgiris**, 52, 79  
**Nira**, 66, 137, 227  
**Nitrogen problem**, 212  
**Nizam's Dominions**, 25, 38, 91, 200, 203



- North-West Provinces, 6, 23, 24, 25, 59, 61, 79, 82, 87, 90, 91, 101, 152
- OILMAN, 163, 170
- Oilseeds, area under, 90, 96, 201, 207, 214; export position, 207-8; marketing, 215
- Opium, 96, 97
- Orissa, 63, 82, 135, 200. *See also* Bihar and Orissa.
- Oudh, 8, 25, 91, 144, 227
- PAPER INDUSTRY, 85, 313
- Paper making, 45
- Patna, 149, 309
- Peasantry, economic condition, 3, 16, 17, 31, 64, 89-90, 200-3, 205; indebtedness, 29-31, 100-101, 156-58, 218-20. *See also* Agriculture, Land, Subdivision and fragmentation of land
- Petroleum industry, 110-11, 270-71, 283, 284
- Plague, 103, 145, 149
- Plantations, 46, 115
- Poona, 18, 20, 29, 33, 35
- Population, check to, on account of famines, 26; growth of, 190-91, 314. *See also* Land.
- Population, urban, proportion to the total, 6, 138-41, 309. *See also* Towns.
- Potter, 163, 164, 166, 168
- Pottery, artistic, 40
- Power, problem of, 195, 316
- Pravara canal, 227
- Prices, movements of, 5-6, 21-2, 64, 202-4, 229-32
- Protection to Industry, 313. *See* Government, Tariff Board.
- Public Works, growth in construction, 19-20
- Public Works Department, 19, 20, 81, 126
- Punjab, 35, 41, 52, 57, 61, 65, 79, 90, 93, 94, 101, 120, 128, 133, 134, 136, 137, 154, 156, 157, 158, 173, 200, 203, 215, 217, 218, 222, 223, 225, 227, 233, 273, 291, 302, 303, 316, 317
- Punjab Land Alienation Act, 156, 220
- RAILWAY BOARD, 268, 305, 307
- Railways, Acworth Committee on, 305; beginnings, 19; dependence of coal industry on, 57-8, 77, 131; effect on urban growth, 141-2; extent and lines of development, 128-9, 307-8; management, 130, 305-7; policy, 126-7, 130; rates policy, 130, 145, 306-7; results, 19, 131-2; separation of budget, 306, 307. *See also* Roads, Wagons.
- Railway workshops, 119, 283, 284
- Rajputana, 6, 23, 24, 25, 35, 38, 142, 150, 152, 156, 303
- Rangoon, 82, 147, 148, 155, 297n, 309
- Raniganj, 57, 112, 128, 259
- Rape and Mustard seed, 96, 207n, 208
- Reh, 136, 278
- Rice, area, 87, 95, 201, 209; exports, 95, 202, 206; India's dependence on Burma, 95, 202, 205; Mills, 80, 117, 119, 283, 284; Markets, 154, 217, 218
- Riots, of Peasants in the Deccan, 29-30
- Road Transport, 308-9
- Roads, 3-5, 18, 132
- Rohilkhand, 227
- Rubber, 277
- Russo-Japanese War, 111
- Ryotwari, village, 61, 62
- SALT INDUSTRY, 112, 291
- Saltpetre industry, 45, 112, 252, 273
- Sarda, 227
- Sericulture, 302
- Sesamum, 96, 207, 208
- Sholapur, 123, 128, 243, 293, 309
- Silk industry, 13, 33, 40, 302
- Sind, 35, 41, 132, 134, 135, 203, 259
- Silver, 252, 253, 274; prices and exchange, 230, 231, 232
- Soda and soda compounds, 278
- South African Coal, 253, 254, 256, 257
- Straits Settlements, 105, 202, 245, 254
- Strikes, 285, 286
- Sub-division and fragmentation of land, 159, 162, 191, 192, 225, 226
- Suez Canal, 58, 63
- Sugar imports, 116; industry, 115-16, 209, 279-80, 283, 284
- Sugarcane, 62, 66, 211; area, 87, 96, 97, 116, 201, 209
- Sukkur Barrage, 227, 314
- Sulphate of Ammonia, 212n, 266, 267

- Sulphuric acid, 266, 267, 278  
 Surat, 299  
 Tuttlej, 133, 237
- TAKAVI ALLOWANCES**, 71, 136  
 Tanjore, 9, 35, 138  
 Tanks, 135, 228  
 Tanner, 169-70. *See* Leather Worker  
 Tanning industry, 56-60, 80, 117, 280  
 Tariff Board, 235, 238, 242, 243, 312, 313  
 Tariff Board, findings regarding cement industry, 281; cotton industry, 246-7; engineering industries, 295; iron and steel industry, 262, 263, 265-6; match industry, 281; petroleum industry, 270, 271; tin-plate industry, 269; wagon industry, 268; wire and wire nail industry, 269  
 Tata Hydro-electric Company, 316  
 Tata Iron and Steel Co., 112, 142, 260, 263, 264, 267, 268, 269, 270  
 Tea, area under, 87, 201; exports, 115, 275  
 Tea plantations, 49-52, 78-89, 115, 274-5, 283, 284; labour on, 51, 79, 274-7  
 Technical education, 196, 312  
 Timber mills, 80, 117  
 Tin, 253  
 Tin-plate industry, 253, 269  
 Towns, causes of decline, 142-7; causes of growth, 140-3; decaying class, 149, 310; industrial, 148, 149; in the first half of the 19th century, 6-9, 138, 139; relative increases in large and small, 141-7, 309-10; trading, 149. *See also* Population, urban  
 Town aggregates, 150  
 Trade, changes in methods, 191; concentration and diffusion, 146; internal trade, 5, 214; foreign trade, 230, 231, 232, 233. *See also* Markets, Railways  
 Trade routes, changes in, 141, 143  
 Trade Unions, 285-7  
 Trade Unions Act, 287  
 Transport facilities during the war, 207, 229, 253, 272  
 Travancore, 277
- UNITED PROVINCES**, 92, 93, 116, 120, 123, 124, 133, 136, 149, 173, 184, 200, 222, 227, 273, 276, 278, 295, 297, 303. *See also* North-West Provinces.  
 Upper Burma, 1, 93-4, 99, 110, 143, 147, 274. *See also* Burma  
 Urbanization, *see* Towns, Population, urban.  
 Usurious Loans Act, 219
- VILLAGES**, constitution and size, 2, 61, 62  
 Village artisans, dues and services, 10-2, 61-2, 163-6; two-fold division of, 10-12, 163-4. *See also* Industry, rural, Weaver.  
 Village community, 10-12, 165-7, 174-6
- WAGES**, 292-4; of agricultural labour, 152; of unskilled labour, 20; on tea plantations, 276, 294; payments to factory workers, 86, 294. *See also* Factory, Labour.  
 Wagon Industry, 268-9  
 Wagon shortage, 131, 254, 256  
 War (1914-1918), effect on agricultural producer, 229; chemical industries, 277-8; coal industry, 253-4; cotton industry, 335-7; Government's industrial policy, 310-11; industries in general, 229-30; iron and steel industry, 260; mineral production, 252-3; oil-seeds trade, 207-8; prices, 203; railways, 304-5  
 Weaver, Handloom, economic condition, 174-5; effects of famines on, 176; tendency towards concentration, 166, 174-5. *See also* Cotton Handloom Industry, Industry, Village artisans.  
 Wells, 136, 221, 228  
 Wheat, area under, 87, 95, 201, 214; consumption, 206; exports, 25, 95, 201, 206-7; imports, 202, 203; improved varieties, 98, 210, 211, 212; production, 203  
 Wire and tinsel industry, 184, 298  
 Wire and wire nail industry, 269  
 Wolfram, 252  
 Woollen industry, 50-1  
 Woollen mills, 78  
 Workmen's Compensation Act, 291-2  
 Workshops, in urban industry, 179, 183, 184, 186, 298
- ZINC**, 252, 267, 274, 278

**SERVANTS OF INDIA SOCIETY'S LIBRARY  
POONA 4.**

1. Books drawn from the library may not be retained for longer than a fortnight.
2. Borrowers will be held strictly responsible for any damage done to books while they are in their possession.