

ROYAL COMMISSION
ON
AGRICULTURE IN INDIA

Volume IV

EVIDENCE
TAKEN IN THE
BENGAL PRESIDENCY

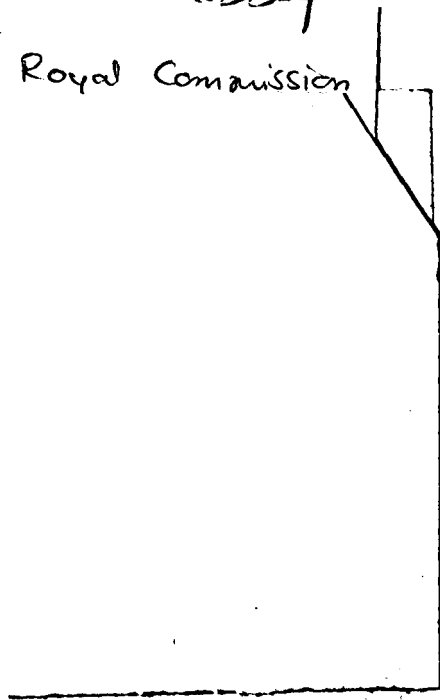


CALCUTTA: GOVERNMENT OF INDIA
CENTRAL PUBLICATION BRANCH
1927

[Price Rs. 6 As. 14 or 11s.]

6384

Royal Comaussion



Dhananjayrao Gadgil Library



GIPE-PUNE-006384

6384

ROYAL COMMISSION
ON
AGRICULTURE IN INDIA

Volume IV

EVIDENCE

TAKEN IN THE

BENGAL PRESIDENCY

BOMBAY
PRINTED AT THE GOVERNMENT CENTRAL PRESS
1927

Government of India Publications are obtainable from the Government of India Central Publication Branch, 3, Government Place, We Calcutta, and from the following Agents :—

• **EUROPE.**

OFFICE OF THE HIGH COMMISSIONER FOR INDIA,
42, GROSVENOR GARDENS, LONDON, S. W. 1.
And at all Booksellers.

INDIA AND CEYLON.

Provincial Book Depots:

MADRAS :—Office of the Superintendent, Government Press, Mount Road, Madras.
BOMBAY :—Superintendent, Government Book Depot, Town Hall, Bombay.
SIND :—Library attached to the Office of the Commissioner in Sind, Karachi.
BENGAL :—Office of the Bengal Secretariat Book Depot, Writers' Buildings, Room No. 1, Ground Floor, Calcutta.
UNITED PROVINCES OF AGRA AND OUDH :—Office of the Superintendent of Government Press, United Provinces of Agra and Oudh, Allahabad.
PUNJAB :—Office of the Superintendent, Government Printing, Punjab, Lahore.
BURMA :—Office of the Superintendent, Government Printing, Burma, Rangoon.
CENTRAL PROVINCES AND BERAR :—Office of the Central Provinces Secretariat, Nagpur.
ASSAM :—Office of the Superintendent, Assam Secretariat Press, Shillong.
BIHAR AND ORISSA :—Office of the Superintendent, Government Printing, Bihar and Orissa, Patna.
COORG :—Office of the Chief Commissioner of Coorg, Bangalore.
NORTH-WEST FRONTIER PROVINCE :—Office of the Manager, Government Printing and Stationery, Peshawar.

Thacker, Spink & Co., Calcutta and Simla.
W. Newman & Co., Ltd., Calcutta.
R. Cambay & Co., Calcutta.
S. K. Lahiri & Co., Calcutta.
The Indian School Supply Depot, 309, Bow Bazar Street, Calcutta, and 226, Nawabpur, Dacca.
Butterworth & Co. (India), Ltd., Calcutta.
Raj M. C. Sarcar Bahadur & Sons, 90-2A, Harrison Road, Calcutta.
The Weldon Library, 17, Park Street, Calcutta.
Standard Literature Company, Limited, Calcutta Association Press, Calcutta.
Chakraverty, Chatterjee & Co., Ltd., 13, College Square, Calcutta.
The Book Company, Calcutta.
James Murray & Co., 12, Government Place, Calcutta. (For Meteorological publications only.)
Ray Chaudhury & Co., 68/5, Asutosh Mukherji Road, Calcutta.
The Oriental Publishing House, 34, Cornwallis Street, Calcutta.
B. C. Basak, Esq., Proprietor, Albert Library, Dacca.
Higginbothams, Madras.
V. Kalyanarama Iyer & Co., Madras.
P. R. Rama Iyer & Co., Madras.
Rochouse & Sons, Madras.
G. A. Nateson & Co., Publishers, George Town, Madras.
The Modern Stores, Salem, Madras.
Theosophical Publishing House, Adyar, Madras.
Bright & Co., Trivandrum.
The Booklover's Resort, Talkad, Trivandrum, South India.
V. S. Swaminathan, Bookseller, West Tower Street, Madura.
E. M. Gopalakrishna Kone, Pudumandapam, Madura.
Vijapur & Co., Vizagapatnam.
Thacker & Co., Ltd., Bombay.
D. B. Taraporewala, Sons & Co., Bombay.
Sunder Pandurang, Bombay.
Ramchandra Govind & Sons, Kalbadevi Road, Bombay.
N. M. Tripathi & Co., Booksellers, Princess Street, Kalbadevi Road, Bombay.
Proprietor, New Kitabkhana, Poona.
The Manager, Oriental Book Supplying Agency, 15, Shukrawar, Poona City.
R. S. Gondhalekar's Book Depot, Publisher and Bookseller, Budhwar Chawk, Poona City.
Managing Director, Co-operative Bookstall, Booksellers and Publishers, Poona City.
Rama Krishna Bros., opposite Vishrambag, Poona City.
Karsandas Narandas & Sons, Surat.
Mangaldas & Sons, Booksellers and Publishers, Bhaga Talao, Surat.
Mrs. Radhabai Atmaram Sagoon, Kalbadevi Road, Bombay.

A. H. Wheeler & Co., Allahabad, Calcutta & Bombay.
B. B. Umadikar & Co., The Bharat Book Depot, Dharwar.
The Standard Bookstall, Karachi, Quetta, Dibrugarh and Rawalpindi.
The Karachi Book Depot, Elphinstone Street, Camp, Karachi.
The Standard Bookstall, Quetta.
U. P. Madhotr & Co., Quetta.
J. Ray & Sons, 43, K. & L., Edwardes Road, Rawalpindi and Murree.
The Standard Book Depot, Lahore, Lucknow, Nainital, Mussoorie, Dalhousie, Ambala Cantonment and Delhi.
N. B. Mathur, Supdt., Nazir Kanun Hind Press, Allahabad.
The North India Christian Tract and Book Society, 18, Clive Road, Allahabad.
Ram Dayal Agarwala, 184, Katra, Allahabad.
Manager, Newal Kishore Press, Lucknow.
The Upper India Publishing House, Ltd., Aminabad Park, Lucknow.
Munshi Seta Ram, Managing Proprietor, Indian Army Book Depot, Jubb, Cawnpore.
Raj Sahib M. Gulab Singh & Sons, Muft-i-Jama, Lahore and Allahabad.
Rama Krishna & Sons, Booksellers, Anarkali, Lahore.
Puri Brothers, Booksellers and Publishers, Katheri Road, Lahore.
The Tilak School Bookshop, Lahore.
The Standard Bookstall, Lahore.
Manager of the Imperial Book Depot, Chandney Chawk Street, Delhi.
Oxford Book and Stationery Company, Delhi.
Supdt., American Baptist Mission Press, Rangoon.
Proprietor, Rangoon Times Press, Rangoon.
The Modern Publishing House, Ltd., 30, Phaulkner Street, Rangoon.
The International Buddhist Book Depot, P. O. Box No. 971, Rangoon.
Burma Book Club, Ltd., Rangoon.
Manager, the "Hitavada," Nagpur.
Bhisey Brothers, Booksellers and Stationery, Sitabaidi, Nagpur.
S. C. Talukdar, Proprietor, Students & Co., Cooch Behar.
Times of Ceylon Co., Ltd., Colombo.
The Manager, Ceylon Observer, Colombo.
The Manager, The Indian Book Shop, Benares City.
The Srivilliputtur Co-operative Trading Union, Ltd., Srivilliputtur (Satur S. I. R.).
Banwari Lal, Esq., Fakariya Street, Pilibhit, United Provinces.
Manager, Educational Book Depot, Jubbulpore.
Raghunath Prasad & Sons, Patna City.
Dandekar Brothers, Indore City.
The Hyderabad Book Depot, Chaderghat, Hyderabad (Deccan).

X 9(N). 2 - N 2 t

F 7 . 4

INTERIM REPORT

To

THE KING'S MOST EXCELLENT MAJESTY.

May It Please Your Majesty,

We, the Commissioners appointed to examine and report on the present conditions of agricultural and rural economy in British India, and to make recommendations for the improvement of agriculture and to promote the welfare and prosperity of the rural population ; in particular to investigate :—(a) the measures now being taken for the promotion of agricultural and veterinary research experiment, demonstration and education, for the compilation of agricultural statistics, for the introduction of new and better crops and for improvement in agricultural practice, dairy farming and the breeding of stock ; (b) the existing methods of transport and marketing of agricultural produce and stock ; (c) the methods by which agricultural operations are financed and credit afforded to agriculturists ; (d) the main factors affecting rural prosperity and the welfare of the agricultural population ; and to make recommendations ; availing ourselves of Your Majesty's permission to report our proceedings from time to time, desire to submit to Your Majesty the minutes of the evidence which we have taken up to the 7th of January 1927 on the subject of our Inquiry.

All of which we most humbly submit for Your Majesty's most gracious consideration.

(Signed) LINLITHGOW,
Chairman.
(..) H. S. LAWRENCE.
(..) T. H. MIDDLETON.
(..) J. MacKENNA.
(..) H. CALVERT.
(..) N. GANGULEE.
(..) L. K. HYDER.
(..) B. S. KAMAT.

(Signed) J. A. MADAN,
(..) F. W. H. SMITH,
Joint Secretaries.

7th June 1927.

CONTENTS

	PAGES
Terms of Reference	iii
Questionnaire	iv-xiii
Evidence of—	
1. { Mr. R. S. Finlow, B.Sc., F.I.C., Director of Agriculture, and Mr. K. McLean, Assistant Director of Agriculture	1-81
2. Rai A. N. Das Bahadur, Officiating Chief Engineer and Secretary to the Government of Bengal, Irrigation Department	82-97
3. Mr. P. J. Kerr, M.R.C.V.S., I.V.S., Veterinary Adviser to the Government of Bengal	98-118
4. Mr. Prabhat Chandra Chaudhuri, Deputy Director of Sericulture, Bengal, Berhampore (Murshi- dabad)	119-126
5. Rai J. M. Mitra Bahadur, M.A., Registrar of Co-operative Societies	127-168
6. Khan Bahadur Maulvi Hemayat Uddin Ahmed, Pleader, Barisal (Bengal)	169-175
7. Mr. Nagendra Nath Mukherjee, B.L., Secretary, Ranaghat Central Co-operative Bank, Limited, Ranaghat (Bengal)	176-205
8. Mr. E. O. Shebbeare, Conservator of Forests	206-224
9. Rai Dr. G. C. Chatterjee Bahadur, Secretary, The Central Co-operative Anti-Malaria Society, Limited, Calcutta	225-239
10. Dr. C. A. Bentley, M.B., D.P.H., D.T.M. & H., Director of Public Health	240-271
11. Mr. G. Morgan, M.L.C., Proprietor, Morgan, Walker and Company, Calcutta	272-295
12. Mr. C. M. Hutchinson, C.I.E., Late Imperial Agricultural Bacteriologist, Calcutta	296-318
13. Mr. F. E. Maurer, Manager, Fertiliser Department, Messrs. Shaw Wallace and Company, Calcutta	302-318
14. Khan Bahadur M. A. Momen, Magistrate-Collector and late Officiating Director of Land Records and Surveys	319-348
15. Rai Kumud Nath Mullick Bahadur, Ranaghat (Bengal)	349-364
16. Sir P. C. Ray, Kt., D.Sc., University College of Science and Technology, Calcutta	365-385
17. Mr. T. C. Crawford, Mr. P. H. Carpenter, and Mr. J. A. Milligan, Representatives of the Indian Tea Association	386-413
18. Mr. J. Sime, Mr. J. T. Finlayson, Mr. J. W. A. Simpson and Mr. W. J. Soutar, Representatives of the Indian Jute Mills Association	414-422
19. Mr. James Peddie, I.C.S., Magistrate-Collector, Malda (Bengal)	423-451
20. Mr. E. F. Oaten, M.A., I.E.S., M.L.C., Director of Public Instruction	452-470

CONTENTS

Evidence of—	PAGE
21. Mr. L. Burrows, B.A., Collector of Faridpur (Bengal)	471-50
22. Mr. M. West, M.A., I.E.S., Principal, Teachers' Training College, Dacca (Bengal) ..	510-54
23. Khan Bahadur Maulvi Wasimuddin Ahmed, B.L., Chairman, District Board, Pabna (Bengal)	532-54
24. Mr. S. N. Roy, Representative of a Deputation from certain districts in Bengal	544-54
25. Khan Bahadur Maulvi Emaduddin Ahmed, B.L., Chairman, District Board, Rajshahi (Bengal)	557-56
Index	i-cx
Glossary	cxvii-cxi

TERMS OF REFERENCE

Generally,

To examine and report on the present conditions of agriculture and rural economy in British India and to make recommendations for the improvement of agriculture and the promotion of the welfare and prosperity of the rural population ;

In particular to investigate—

- (a) the measures now being taken for the promotion of agricultural and veterinary research, experiment, demonstration and education, for the compilation of agricultural statistics, for the introduction of new and better crops and for improvement in agricultural practice, dairy farming and the breeding of stock ;
- (b) the existing methods of transport and marketing of agricultural produce and stock ;
- (c) the methods by which agricultural operations are financed and credit afforded to agriculturists ;
- (d) the main factors affecting rural prosperity and the welfare of the agricultural population ;

and to make recommendations.

It will not be within the scope of the Commission's duties to make recommendations regarding the existing system of landownership and tenancy or of the assessment of land revenue and irrigation charges, or the existing division of functions between the Government of India and the local Governments. But the Commission shall be at liberty to suggest means whereby the activities of the Governments in India may best be co-ordinated and to indicate directions in which the Government of India may usefully supplement the activities of local Governments.

QUESTIONNAIRE**PART I**

Question.

1. Research.
2. Agricultural education.
3. Demonstration and propaganda.
4. Administration.
5. Finance.
6. Agricultural indebtedness.
7. Fragmentation of holdings.

PART II

8. Irrigation.
9. Soils.
10. Fertilisers.
11. Crops.
12. Cultivation.
13. Crop protection.
14. Implements.

PART III

15. Veterinary.
16. Animal husbandry.

PART IV

17. Agricultural industries.
18. Agricultural labour.
19. Forests.
20. Marketing.
21. Tariffs and sea freights.
22. Co-operation.
23. General education.
24. Attracting capital.
25. Welfare of rural population.
26. Statistics.

v

QUESTIONNAIRE

PART I

1. Research.

(a) Have you suggestions to advance for the better organisation, administration and financing of—

(i) All research affecting the welfare of the agriculturist, including research into the scientific value of the indigenous theory and traditional methods of agriculture,

(ii) Veterinary research ?

(b) If in cases known to you progress is not being made because of the want of skilled workers, or field or laboratory facilities for study or by reason of any other handicaps, please give particulars. [Suggestions of a general kind should be made under (a) ; answers under this heading should relate to specific subjects. The purpose is to secure a list of the problems met with by scientific investigators in the course of their work which are being held over because of lack of resources or deficient organisation.]

(c) Can you suggest any particular subject for research not at present being investigated to which attention might usefully be turned ?

2. Agricultural Education.

With reference to any form of agricultural education of which you may have experience, please state your views on the following :—

(i) Is the supply of teachers and institutions sufficient ?

(ii) Is there an urgent need for extension of teaching facilities in any district or districts known to you personally ?

(iii) Should teachers in rural areas be drawn from the agricultural classes ?

(iv) Are the attendances at existing institutions as numerous as you would expect in present circumstances ; if not, state reasons. Can you suggest measures likely to stimulate the demand for instruction ?

(v) What are the main incentives which induce lads to study agriculture ?

(vi) Are pupils mainly drawn from the agricultural classes ?

(vii) Are there any modifications in existing courses of study which appear to be called for ; if so, what are they ?

(viii) What are your views upon (a) nature study ; (b) school plots ; (c) school farms ?

(ix) What are the careers of the majority of students who have studied agriculture ?

(x) How can agriculture be made attractive to middle class youths ?

(xi) Are there recent movements for improving the technical knowledge of students who have studied agriculture ?

- (xii) How can adult education in rural tracts be popularised ?
 (xiii) In suggesting any scheme for better educational facilities in rural areas, please give your views for (a) its administration and (b) its finance.

3. Demonstration and Propaganda.

(a) What are the measures which in your view have been successful in influencing and improving the practice of cultivators ?

(b) Can you make suggestions for increasing the effectiveness of field demonstrations ?

(c) Can you suggest methods whereby cultivators may be induced to adopt expert advice ?

(d) If you are aware of any striking instances of the success or the failure of demonstration and propaganda work, please give particulars and indicate the reasons for success or for failure.

4. Administration.

(a) Do you wish to suggest means towards the better co-ordination of the activities of the Governments in India or to indicate directions in which the Government of India may usefully supplement the activities of the local Governments ?

(b) Is it your opinion that the expert scientific knowledge required in the development of agriculture in the different Provinces could be supplied to a greater extent than is the case at present by increasing the scientific staff of the Government of India ? If so, indicate the types of work which would benefit by pooling the services of experts, and suggest how that work should be controlled.

(c) Are you satisfied from the agricultural standpoint with the services afforded by—

- (i) The Agricultural and Veterinary Services,
- (ii) Railways and steamers,
- (iii) Roads,
- (iv) Meteorological Department,
- (v) Posts, and
- (vi) Telegraphs, including wireless ?

If not, please indicate directions in which you think these Services might be improved or extended.

5. Finance.

(a) What are your views as to the steps that should be taken for the better financing of agricultural operations and for the provision of short and long-term credit to cultivators ?

(b) Do you wish to suggest means whereby cultivators may be induced to make fuller use of the Government system of *taccavi* ?

6. Agricultural Indebtedness.

(a) What in your opinion are :—

- (i) the main causes of borrowing,
- (ii) the sources of credit, and
- (iii) the reasons preventing repayment.

(b) What measures in your opinion are necessary for lightening agriculture's burden of debt? For example, should special measures be taken to deal with rural insolvency, to enforce the application of the Usurious Loans Act, or to facilitate the redemption of mortgages?

(c) Should measures be taken to restrict or control the credit of cultivators such as limiting the right of mortgage and sale? Should non-terminable mortgages be prohibited?

7. Fragmentation of Holdings.

(a) Do you wish to suggest means for reducing the loss in agricultural efficiency attendant upon the excessive subdivision of holdings?

(b) What are the obstacles in the way of consolidation and how can they be overcome?

(c) Do you consider legislation to be necessary to deal with minors, widows with life interest, persons legally incapable, alienation and dissentients, and to keep disputes out of the courts?

PART II

8. Irrigation.

(a) Name any district or districts in which you advocate the adoption of new irrigation schemes, or suggest extensions or improvements in the existing systems or methods of irrigation by—

- (i) Perennial and non-perennial canals,
- (ii) Tanks and ponds,
- (iii) Wells.

What are the obstacles in your district or Province to the extension of irrigation by each of the above methods?

(b) Are you satisfied with the existing methods of distributing canal water to cultivators? Describe the methods that have been employed to prevent wastage of water by evaporation and by absorption in the soil. What form of outlet for distribution to cultivators at the tail end do you regard as the most equitable and economical? Have these methods and devices been successful, or do you wish to suggest improvements?

(N.B.—Irrigation charges are *not* within the terms of reference of the Commission, and should not be commented upon.)

9. Soils.

(a) Have you suggestions to make—

- (i) for the improvement of soils, whether by drainage or other means, not dealt with under other headings in this questionnaire.
- (ii) for the reclamation of Alkali (Usar) or other uncultivable land,
- (iii) for the prevention of the erosion of the surface soil by flood water?

(b) Can you give instances of soils known to you which, within your recollection, have—

- (i) undergone marked improvement,
- (ii) suffered marked deterioration?

If so, please give full particulars.

(c) What measures should Government take to encourage the reclamation of areas of cultivable land which have gone out of cultivation ?

10. Fertilisers.

(a) In your opinion, could greater use be profitably made of natural manures or artificial fertilisers ? If so, please indicate the directions in which you think improvement possible.

(b) Can you suggest measures to prevent the fraudulent adulteration of fertilisers ?

(c) What methods would you employ to popularise new and improved fertilisers ?

(d) Mention any localities known to you in which a considerable increase in the use of manures has recently taken place.

(e) Has effect of manuring with phosphates, nitrates, sulphate of ammonia, and potash manures been sufficiently investigated ? If so, what is the result of such investigation ?

(f) What methods would you employ to discourage the practice of using cowdung as fuel ?

11. Crops.

(a) Please give your views on—

- (i) the improvement of existing crops,
- (ii) the introduction of new crops including fodder crops,
- (iii) the distribution of seeds,
- (iv) the prevention of damage by wild animals.

(b) Can you suggest any heavy yielding food crops in replacement of the present crops ?

(c) Any successful efforts in improving crops or substituting more profitable crops which have come under your own observation should be mentioned.

12. Cultivation.

Can you suggest improvements in—

- (i) the existing system of tillage, or
- (ii) the customary rotations or mixtures of the more important crops ?

13. Crop Protection, Internal and External.

Please give your views on—

- (i) The efficacy and sufficiency of existing measures for protection of crops from external infection, pests and diseases.
- (ii) The desirability of adopting internal measures against infection.

14. Implements.

(a) Have you any suggestion for the improvement of existing, or the introduction of new, agricultural implements and machinery ?

(b) What steps do you think may usefully be taken to hasten the adoption by the cultivator of improved implements ?

(c) Are there any difficulties which manufacturers have to contend with in the production of agricultural implements or their distribution for sale throughout the country? If so, can you suggest means by which these difficulties may be removed?

PART III

15. Veterinary.

(a) Should the Civil Veterinary Department be under the Director of Agriculture or should it be independent?

(b) (i) Are dispensaries under the control of Local (District) Boards? Does this system work well?

(ii) Is the need for expansion being adequately met?

(iii) Would you advocate the transfer of control to Provincial authority?

(c) (i) Do agriculturists make full use of the veterinary dispensaries? If not, can you suggest improvements to remedy this?

(ii) Is full use made of touring dispensaries?

(d) What are the obstacles met with in dealing with contagious diseases? Do you advocate legislation dealing with notification, segregation, disposal of diseased carcasses, compulsory inoculation of contacts and prohibition of the movement of animals exposed to infection? Failing legislation, can you suggest other means of improving existing conditions?

(e) Is there any difficulty in securing sufficient serum to meet the demand?

(f) What are the obstacles in the way of popularising preventive inoculation? Is any fee charged, and, if so, does this act as a deterrent?

(g) Do you consider that the provision of further facilities for research into animal disease is desirable?

If so, do you advocate that such further facilities should take the form of—

(i) an extension of the Muktesar Institute, or

(ii) the setting up, or extension of, Provincial Veterinary Research Institutions?

(h) Do you recommend that special investigations should be conducted by—

(i) officers of the Muktesar Institute, or

(ii) research officers in the Provinces?

(i) Do you recommend the appointment of a Superior Veterinary Officer with the Government of India? What advantages do you expect would result from such an appointment?

16. Animal Husbandry.

(a) Do you wish to make suggestions for—

(i) improving the breeds of livestock,

(ii) the betterment of the dairying industry,

(iii) improving existing practice in animal husbandry?

(b) Comment on the following as causes of injury to cattle in your district—

- (i) Overstocking of common pastures,
- (ii) Absence of enclosed pastures, such as grass borders in tilled fields,
- (iii) Insufficiency of dry fodder such as the straw of cereals or the stems and leaves of pulses,
- (iv) Absence of green fodders in dry seasons,
- (v) Absence of mineral constituents in fodder and feeding stuffs.

(c) Please mention the months of the year in which fodder shortage is most marked in your district. For how many weeks does scarcity of fodder usually exist? After this period of scarcity ends how many weeks elapse before young growing cattle begin to thrive?

(d) Can you suggest any practicable methods of improving or supplementing the fodder supply that would be applicable to your district?

(e) How can landowners be induced to take a keener practical interest in these matters?

PART IV

17. Agricultural Industries.

✓ (a) Can you give any estimate of the number of days of work done by an average cultivator on his holding during the year? What does he do in the slack season?

(b) Can you suggest means for encouraging the adoption of subsidiary industries? Can you suggest any new subsidiary industries to occupy the spare time of the family which could be established with Government aid?

(c) What are the obstacles in the way of expansion of such industries as beekeeping, poultry rearing, fruit growing, sericulture, pisciculture, lac culture, rope making, basket making, etc.?

(d) Do you think that Government should do more to establish industries connected with the preparation of agricultural produce for consumption, such as oil pressing, sugar making, cotton ginning, rice hulling, utilisation of wheat straw for card-board, utilisation of cotton seed for felt, fodder, oil and fuel, utilisation of rice straw for paper, etc.?

(e) Could subsidiary employment be found by encouraging industrial concerns to move to rural areas? Can you suggest methods?

(f) Do you recommend a more intensive study of each rural industry in its technical, commercial and financial aspects, with a view to, among other things, introduction of improved tools and appliances?

(g) Can you suggest any other measures which might lead to greater rural employment?

(h) Can you suggest means whereby the people could be induced to devote their spare time to improving the health conditions of their own environment?

18. Agricultural Labour.

(a) What measures, if any, should be taken to attract agricultural labour from areas in which there is a surplus to—

(i) areas under cultivation in which there is a shortage of such labour?
and

(ii) areas in which large tracts of cultivable land remain uncultivated?

Please distinguish between suggestions designed to relieve seasonal unemployment and proposals for the permanent migration of agricultural population.

(b) If there is any shortage of agricultural labour in your Province, what are the causes thereof and how could they be removed?

(c) Can you suggest measures designed to facilitate the occupation and development, by surplus agricultural labour, of areas not at present under cultivation?

19. Forests.

(a) Do you consider that forest lands as such are at present being put to their fullest use for agricultural purposes? For instance, are grazing facilities granted to the extent compatible with the proper preservation of forest areas? If not, state the changes or developments in current practice which you consider advisable.

(b) Can you suggest means whereby the supply of firewood and fodder in rural areas may be increased?

(c) Has deterioration of forests led to soil erosion? What remedies would you suggest for erosion and damage from floods?

(d) Can you indicate any methods by which supply of moisture in the soil, the rainfall and supply of canal water can be increased and regulated by afforestation or by the increased protection of forests so as to benefit agriculture? Would the same methods be useful in preventing the destruction by erosion of agricultural land?

(e) Is there an opening for schemes of afforestation in the neighbourhood of villages?

(f) Are forests suffering deterioration from excessive grazing? Is soil erosion being thereby facilitated? Suggest remedies.

20. Marketing.

(a) Do you consider existing market facilities to be satisfactory? Please specify and criticise the markets to which you refer, and make suggestions for their improvement.

(b) Are you satisfied with the existing system of marketing and distribution? If not, please indicate the produce to which you refer and describe and criticise in detail the channels of marketing and distribution from the producer to the consumer in India (or exporter in the case of produce exported overseas). State the services rendered by each intermediary and whether such intermediary acts in the capacity of merchant or commission agent, and comment upon the efficiency of these services and the margins upon which such intermediaries operate. Please describe

the method by which each transaction is financed, or in the case of barter, by which an exchange is effected.

(c) Do you wish to suggest steps whereby the quality, purity, grading or packing of agricultural produce may be improved, distinguishing where possible between produce destined for—

- (i) Indian markets ?
- (ii) Export markets ?

(d) Do you think that more effective steps might be taken to place at the disposal of cultivators, merchants and traders information as to market conditions, whether Indian or overseas ; crop returns ; complaints as to Indian produce from wheresoever originating ; and agricultural and marketing news in general ?

21. Tariffs and Sea Freights.

Do existing (a) customs duties, both import and export, and (b) sea freights adversely affect the prosperity of the Indian cultivator ? If so, have you any recommendations to make ?

22. Co-operation.

(a) What steps do you think should be taken to encourage the growth of the co-operative movement—

- (i) by Government,
- (ii) by non-official agencies ?

(b) Have you any observations to make upon—

- (i) Credit societies ;
- (ii) Purchase societies ;
- (iii) Societies formed for the sale of produce or stock ;
- (iv) Societies for effecting improvements—*e.g.*, the digging of wells and the construction of bunds, walls and fences, or the planting of hedges ;
- (v) Societies formed for the aggregation of fragmented holdings and their redistribution in plots of reasonable size ;
- (vi) Societies for the co-operative use of agricultural machinery ;
- (vii) Societies for joint farming ;
- (viii) Cattle breeding societies ;
- (ix) Societies formed for any purpose connected with agriculture or with the betterment of village life, but not specified above ?

(c) Where co-operative schemes for joint improvement, such as co-operative irrigation or co-operative fencing or a co-operative consolidation holdings scheme, cannot be given effect to owing to the unwillingness of a small minority to join, do you think legislation should be introduced in order to compel such persons to join for the common benefit of all ?

(d) Do you consider that those societies of which you have personal knowledge have, in the main, achieved their object ?

23. General Education.

(a) Do you wish to make observations upon existing systems of education in their bearing upon the agricultural efficiency of the people? If you make suggestions, please distinguish, as far as possible, between—

- (i) Higher or collegiate,
- (ii) Middle school, and
- (iii) Elementary school education.

(b) (i) Can you suggest any methods whereby rural education may improve the ability and culture of agriculturists of all grades while retaining their interest in the land?

(ii) What is your experience of compulsory education in rural areas?

(iii) What is the explanation of the small proportion of boys in rural primary schools who pass through the fourth class?

24. Attracting Capital.

(a) What steps are necessary in order to induce a larger number of men of capital and enterprise to take to agriculture?

(b) What are the factors tending to discourage owners of agricultural land from carrying out improvements?

25. Welfare of Rural Population.

(a) Outside the subjects enumerated above, have you any suggestions to offer for improving hygiene in rural areas and for the promotion of the general well-being and prosperity of the rural population?

(b) Are you, for instance, in favour of Government conducting economic surveys in typical villages with a view to ascertaining the economic position of the cultivators? If so, what, in your opinion, should be the scope and methods of such enquiries?

(c) If you have carried out anything in the nature of such intensive enquiry, please state the broad conclusions which you reached.

26 Statistics.

(a) Do you wish to make suggestions for the extension or improvement of the existing methods of—

- (i) ascertaining areas under cultivation and crops;
- (ii) estimating the yield of agricultural produce;
- (iii) enumerating livestock and implements;
- (iv) collecting information on land tenure, the incidence of land revenue and the size of the agricultural population;
- (v) arranging and publishing agricultural statistics?

(b) Have you any other suggestions to make under this heading?

INDEX.

Figures in brackets refer to pages of written memoranda; figures not in brackets to questions in oral evidence.

ADMINISTRATION.

- Agricultural Adviser, should not act as Director of Pusa but should be responsible for co-ordination of research (*Hutchinson*) (296), 21,821-21,825.
- Agricultural Department, budget of, before and after retrenchment (*Finlow*) 18,378-18,380, 18,436-18,444, 18,777.
- _____, out of touch with cultivators and unpopular (*Momen*) (322), 22,198-22,204, 22,428.
- _____, retrenchment of (*Finlow*) 18,145-18,159, 18,199-18,201.
- _____, service afforded by, unsatisfactory (*Ahmed M*) (557), 24,576.
- _____, should co-operate with Collectors in demonstrations (*Burrows*) (472).
- _____, staff of, insufficient (*Momen*) (321), (*Jute Mills Association*) (414), (*Peddie*) (424), 23,292, (*Mitra*) (128).
- _____, organisation of (*Finlow*) 17,519-17,560.
- _____, proposals for increasing (*Finlow*) 18,158, 18,598-18,600.
- _____, subordinate, requires increasing (*Mukherjee*) (177), 20,077-20,080, 20,226-20,233, (*Momen*) (322), 22,419, 22,428, 22,429, (*Ahmed U*) (533), (*Ahmed M*) (557).
- _____, top heavy (*Momen*) (322), 22,329-22,337, 22,417, 22,418.
- Annual meeting of Directors of Agriculture, desirable (*Finlow*) 18,616.
- Associations representing jute industry (*Jute Mills Association*) 23,193-23,197.
- Board of Agriculture, sectional meetings of, unsatisfactory (*Hutchinson*) 21,899, 21,900.
- _____, should meet annually (*Hutchinson*) 21,896-21,898.
- _____, Bengal (*Finlow*) 17,839-17,842, (*Mullick*) 22,508-22,515.
- Central organisation for agriculture, suggested organisation and functions of (*Finlow*) (2), 17,604-17,612, 18,613-18,619, (*Mitra*) (127), 19,781-19,783, (*Hutchinson*) (297), 22,061-22,063, (*Morgan*) (272), 21,463-21,465, 21,660, (*Momen*) (321), 22,104, (*Mullick*) (349, 350).
- Circle officers, agricultural training for (*Peddie*) 23,418.
- _____, duties of (*Roy*) 24,511-24,516.
- _____, might act as secretaries to Union Boards (*Momen*) 22,442.
- _____, should interest themselves in agricultural development (*Peddie*) (424), 23,415-23,417, (*Burrows*) (472).
- _____, see also Revenue officers.
- Circles, consist of four or five Unions (*Roy*) 24,522, 24,523.
- Collectors, importance of their collaboration in agricultural work (*Burrows*) (472), 23,672-23,675.
- _____, resolution directing their attention to importance of assisting agriculture, desirable (*Burrows*) 23,870-23,874.
- _____, see also Revenue officers.
- Communications, improvement of, important as improving marketing facilities (*Mitra*) (134), (*Indian Tea Association*) (387).
- _____, suggestions for, in Faridpur district (*Burrows*) (476).
- _____, see also under Railways, Roads and Waterways.

INDEX.

ADMINISTRATION—*contd.*

- Conferences of research workers, useful (*Morgan*) 21,663.
 Co-ordination of provincial research (*Finlow*), 17,614-17,618, 18,616,
 (*Hutchinson*) (297), (*Morgan*) 21,663, (*Momen*) (321).
 Co-operation of Agricultural Department with Co-operative Department
 (*Mitra*) 19,660-19,664,
 19,765, 19,774, 19,775.
-
- Departments allied to
 Agriculture (*Finlow*)
 18,644-18,653; *see also*
 Development Commis-
 sioners.
-
- Forest Department (*Fin-
 low*) 18,020, 18,021,
 (*Shebbeare*) 20,609,
 20,610, 20,735-20,737.
-
- Irrigation Dept. (*Finlow*)
 18,020, 18,021, (*Das*)
 18,818, 18,819, 18,869-
 18,873.
-
- Public Health Dept.
 (*Bentley*) 21,449.
- Demonstrators, *see under* DEMONSTRATION AND PROPAGANDA.
 Deputy Directors of Agriculture, duties of (*Finlow*) 17,524-17,526, 18,170-
 18,172, 18,209-18,213, 18,284, 18,285.
 _____, need for further (*Finlow*) 18,214.
 _____, out of touch with cultivators (*Momen*)
 (322), 22,319-22,322.
- Development Commissioners, provincial, to secure co-operation between
 Departments allied to Agriculture (*Finlow*) 18,648-18,653, 18,793, 18,794,
 18,804, 18,805.
- District agricultural officers, do not take sufficient interest in their work
 (*Momen*) (321), 22,318.
 _____, pay and prospects of (*Finlow*) 17,540-17,545,
 18,543.
 _____, present and proposed numbers of (*Finlow*)
 18,537.
 _____, possibility of recruiting, from ranks of
 Demonstrators (*Finlow*) 18,544-18,551.
 _____, qualifications of (*Finlow*) 17,534-17,539.
 _____, relations of, with Collectors (*Momen*) 22,221-
 22,225.
 _____, should have more freedom of action (*Momen*)
 (319), 22,410-22,412.
 _____, training of (*Finlow*) (3), 17,659.
 _____, work of (*Momen*) (322), 22,220.
- District Boards, Chairmen of, non-official less satisfactory than official
 (*Momen*) 22,117-22,125, 22,392-22,397, 22,438.
 _____, committees of (*Momen*) 22,127-22,129.
 _____, help given by, to agriculture (*Finlow*) 18,604-18,612.
 _____, inspection of (*Momen*) 22,140-22,142.
 _____, may allot money for agricultural improvement (*Finlow*)
 18,088-18,091.
 _____, members of (*Momen*) 22,126, 22,131.
 _____, relations of, with Revenue officers (*Burrows*) 23,885-
 23,892, 23,909-23,911, (*Ahmed M*)
 24,615, 24,616.
 _____, _____, with Union Boards (*Ahmed M*) 24,625,
 24,626.
 _____, revenue of (*Mukherjee*) 20,146-20,155, 20,177-20,185,
 20,212-20,215.
 _____, roads under, *see* Roads.
 _____, should be empowered to metal roads and recover cost by
 taxation (*Ahmed M*) 24,577.
 _____, *see also* Local bodies.

INDEX.

ADMINISTRATION—*contd.*

- Financing of agricultural improvements, by acreage cess (*Finlow*) 17,599, 18,583, 18,625-18,630.
 _____, by export cess (*Mitra*) (127), 19,783-19,787.
 _____, by jute cess (*Finlow*) 18,622, 18,623.
 _____, from revenue (*Mitra*) (127).
 Financing of rural reconstruction generally, by acreage cess (*Finlow*) 18,625-18,630.
 _____, by loans policy (*Bentley*) 21,364-21,368.
 Fisheries Department, abolished through retrenchment but to be revived (*Finlow*) (12), 18,374, 18,375, 18,384.
 Government of India, scientific staff of, should be increased (*Mullick*) (350).
 _____, need not be increased (*Morgan*) (272).
 Jute, suggestion for organisation similar to Indian Central Cotton Committee (*Jute Mills Association*) 23,197-23,201.
 Local Boards to deal with specific subjects, preferable to bodies having multiplicity of functions (*Bentley*) 21,445-21,448.
 Local bodies, are not giving a lead in public health work on account of defective franchise (*Chatterjee*) (226).
 _____, attitude of, towards public health questions (*Bentley*) 21,172-21,175, 21,416-21,418.
 _____, continuity of policy of (*Bentley*) 21,419-21,421.
 _____, financial aid for, for public health work (*Bentley*) 21,175-21,177, 21,356-21,364, 21,368, 21,369.
 _____, grants given to, for water-supply, not always utilised (*Chatterjee*) (225), 21,100-21,103.
 _____, local taxation by, for public health purposes (*Bentley*) 21,425-21,427.
 _____, midwives under (*Bentley*) 21,396-21,399.
 _____, official element in, too strong (*Chatterjee*) (226, 227), 21,037-21,042, 21,144, 21,145.
 _____, public health staff under (*Bentley*) 21,160-21,169.
 _____, _____, scheme for increasing (*Bentley*) 21,353-21,355.
 _____, relations of, with co-operative public health societies (*Chatterjee*) 20,951-20,962, 21,028-21,035, 21,133-21,137.
 _____, should keep their own statistics (*Bentley*) 21,402.
 Local Self Government Board, to guide autonomous local bodies, need for (*Chatterjee*) (227), 21,145.
 Local Self Government system of England, should be adopted in India (*Chatterjee*) 21,145.
 Meteorological Department, observations made by, in tea districts (*Indian Tea Association*) 23,140-23,144.
 _____, of no assistance to cultivators (*Momen*) (322).
 _____, unsatisfactory nature of information given by, causes of (*Indian Tea Association*) (387), 22,976-22,978.
 _____, work of (*Finlow*) 17,787-17,789, (*Jute Mills Association*) (415).
 Meteorological information, dissemination of (*Morgan*) 21,664-21,667, (*Mullick*) (350).
 _____, does not reach cultivators (*Ahmed U*) (533).
 _____, unsatisfactory (*Indian Tea Association*) (387), 22,976-22,978.
 Motors, effect of, on roads (*Momen*) 22,105-22,107.
 _____, taxation of (*Momen*) 22,108-22,116.
 Personal Assistant to Director of Agriculture, status and work of (*Finlow*) 17,770, 17,771, 17,776.
 Provinces, should have complete scientific staff of their own (*Morgan*) (272).
 _____, role of, in research (*Finlow*) 17,612, 18,613-18,619.
 Public Health Department, co-operation of, with Agricultural Department (*Bentley*) 21,449.

INDEX

ADMINISTRATION—*contd.*

- Public Health Department, co-operation of, with Education Department
(*Bentley*) 21,188.
- _____, with Irrigation Department
(*Bentley*) 21,289, 21,290,
21,450.
- _____, difficulties of, owing to cumbersome system of
control (*Bentley*) 21,180.
- _____, in Bengal, wrongly regarded as minor depart-
ment (*Bentley*) 21,349, 21,350.
- _____, staff of (*Bentley*) 21,152-21,169.
- _____, insufficient (*Bentley*) 21,353.
- Pusa, *see under RESEARCH.*
- Railway Advisory Committee, constitution of (*Morgan*) 21,467-21,469.
- _____, complaints from actual growers do not
reach (*Morgan*) 21,470.
- Railways, and steamers, competition between, has not benefited the
cultivator (*Mitra*) (129).
- _____, are apt to starve stations where there is no steamer com-
petition (*Morgan*) (272), 21,466, (*Jute Mills Association*)
(415).
- _____, branch and feeder lines, need of Government assistance for
(*Mitra*) (129).
- _____, facilities provided by, satisfactory (*Peddie*) (425), (*Morgan*)
21,471-21,474 (*Jute Mills Associa-*
tion) (414).
- _____, should be improved and cold storage
provided (*Mullick*) (350).
- _____, unsatisfactory (*Ahmed M.*) (557, 560).
- _____, feeder roads for, necessary (*Indian Tea Association*) (387).
- _____, freight rates for jute, unduly high (*Jute Mills Association*)
(415), 23,265-23,271. *See also* Transport of jute.
- _____, making of representations to (*Finlow*) 17,772-17,778.
- _____, officials of, are corrupt (*Ahmed U*) (533), 24,167-24,171.
- _____, better educated men should be appointed for
(*Ahmed U*) (533), 24,172, 24,173.
- _____, policy for, lack hitherto of progressive, but position im-
proving (*Indian Tea Association*) (387).
- _____, scope for further (*Indian Tea Association*) (387), 22,973-22,975.
- _____, wagons, supply of, for jute traffic (*Morgan*) (21,472-21,474).
- Recording results of experiments and administrative experience, machinery
for, capable of improvement (*Finlow*) 17,752-17,759.
- Revenue officers, interest taken by, in agriculture (*Finlow*) 18,667-18,669.
- _____, should be instructed to pay special attention to agricul-
ture (*Finlow*) 18,655-18,666, 18,670.
- _____, value of interest of, in agriculture (*Finlow*) 18,654-
18,657.
- _____*—see also* Circle officers and Collectors.
- Road Board, need for provincial (*Peddie*) (425).
- Roads, bridging of (*Mukherjee*) 20,186-20,190.
- _____, condition of, a hindrance to marketing (*Ahmed U*) (533, 536).
- _____, in Western Bengal (*Finlow*) 17,781, 17,782, 18,414,
18,415.
- _____, need for improvement of (*Mullick*) (350).
- _____, effect of motor traffic on, *see* Motors.
- _____, improvement of, will have good effect on agricultural, economic
and sanitary conditions (*Mukherjee*) (177,
181), 20,109-20,118.
- _____, financing of, by means of tolls (*Mukherjee*)
(181), 20,118-20,133, 20,309-20,315, 20,529-20,532.
- _____, must go hand in hand with improvement of
education (*Mukherjee*) 20,117.
- _____, lack of (*Mitra*) (129).
- _____, need for extra taxation (such as cart tax) to improve (*Peddie*)
(425), 23,299, 23,300, 23,429, 23,430.
- _____, under District Boards, deteriorating (*Finlow*) 17,783, 17,784,
(*Momen*) 22,117, 22,118, (*Peddie*) (425), 23,298.

INDEX.

ADMINISTRATION—*contd.*

Rural development, financing of (*Mukherjee*) 20,118-20,155, 20,177-20,185, 20,212-20,215, 20,309-20,315, 20,318-20,326, 20,400-20,405, 20,529-20,532, 20,545-20,576.

Steamship facilities, satisfactory (*Jute Mills Association*) (414) (*Peddie*) (425).

_____, should be improved (*Mullick*) (350).

Tramways, possibilities of (*Indian Tea Association*) 23,128-23,130.

Transport of jute, difficulties of, co-operative societies to solve (*Morgan*) 21,755, 21,756.

_____, give rise to number of middle-men (*Morgan*) 21,753.

_____, improvement of (*Morgan*) 21,754.

_____, rates for (*Morgan*) 21,791, 21,792.

Union Boards, area of (*Bentley*) 21,186, 21,187.

_____, area and income of (*Roy*) 24,456-24,458, 24,519, 24,520.

_____, are in some respects political institutions (*Ahmed M*) 24,618-24,624.

_____, can become effective bodies for rural work (*Momen*) (319), 22,212-22,214, (*Roy*), 24,450, 24,451.

_____, chairmen of, largely run them (*Roy*) 24,449, 24,452, 24,510.

_____, failure of, probable (*Bentley*) 21,182-21,185, 21,445-21,448.

_____, relations of, with Co-operative public health societies (*Bentley*) 21,181-21,185, 21,376, 21,377.

_____, with District Boards (*Ahmed M*) 24,625, 24,626.

_____, secretaries of, salaries and duties of (*Roy*) 24,453-24,455.

_____, should receive more help from Collectors (*Momen*) (319), 22,215-22,218.

_____, unit for, artificial (*Bentley*) 21,371-21,375.

_____, see also Local bodies.

Veterinary Service, see under VETERINARY.

Water hyacinth, Bill for eradication of, in Burma (*Burrows*) 23,717, 23,718.

_____, conscription of labour for eradication of, difficult (*Burrows*) 23,853-23,855.

_____, destruction of (*Finlow*) 18,180-18,182.

_____, first appeared 15 years ago (*Finlow*) 18,560.

_____, if not dealt with will choke waterways and fields (*Finlow*) 18,186-18,189, (*Burrows*) 23,857.

_____, interprovincial co-operation to check (*Burrows*) 23,719-23,721.

_____, legislation against, useless without scheme of operation (*Burrows*) 23,716.

_____, need for concerted action against (*Finlow*) 18,183, 18,184.

_____, proposed scheme for eradication of (*Appendix*) (*Burrows*) (482-486), (478), 23,666-23,668, 23,722-23,730, 23,811.

Waterways, danger of silting up of (*Jute Mills Association*) (415).

_____, take the place of roads in Eastern Bengal (*Jute Mills Association*) (415), (*Finlow*) 17,780, (*Burrows*) (476).

_____, use of, for jute transport (*Morgan*) 21,607-21,614, 21,640-21,643.

AGRICULTURAL INDEBTEDNESS.

Abwabs, taking of, by landlords, should be prohibited (*Ahmed M.*) (558, 560), 24,579, 24,580.

Agricultural income of Bengal, is decreasing (*Mukherjee*) 20,540-20,544.

Availability of money, not a cause of borrowing (*Mukherjee*) 20,504-20,507.

Bengal Tenancy Act, effect of (*Mitra*) 19,515-19,517.

Capital, invested in moneylending rather than agricultural improvements (*Morgan*) 21,730-21,736.

Causes of borrowing (*Finlow*) (5), (*Mitra*) (129), (*Ahmed H.*) (169), (*Mukherjee*) (177), (*Bentley*) (240), (*Morgan*) (272), (*Momen*) (323),

(*Mullick*) (350), (*Peddie*) (425, 426), (*Ahmed U.*) (533), (*Ahmed M.*) (558).

Credit, as a cause of debt (*Momen*) 22,279-22,287.

_____, control of, may raise rate of interest (*Mitra*) 19,894, 19,895.

_____, undesirable (*Ahmed H.*) (169), (*Mukherjee*) (177).

INDEX.

AGRICULTURAL INDEBTEDNESS—*contd.*

- Credit, control of, undesirable except in case of backward tribes (*Mitra*) (130), 19,825, 19,826.
- Cultivators, comparative incompetence of, a cause of debt (*Finlow*) (5), 17,818, 17,819.
- , credit of, *see* Credit.
- , cultivating jute, better off than others (*Finlow*) (5), 18,490-18,494.
- , income of, per acre (*Finlow*) (5), 18,366-18,373.
- , improvidence of (*Momen*) (323), (*Roy*) (366), 22,690, 22,691.
- , income of (*Finlow*) 18,357-18,359, (*Momen*) (323, 328), 22,404-22,406.
- , indebtedness of, a measure of prosperity rather than poverty (*Bentley*) (240).
- , causing them to become landless labourers (*Momen*) (328), 22,294, 22,295.
- , inquiry into, desirable (*Finlow*) 17,797-17,801.
- , is increasing (*Roy*) 22,694-22,697.
- , usually extends to full extent of their credit (*Bentley*) (240, 241).
- , not selling their land in any numbers (*Roy*) 24,567, 24,568.
- , occupancy rights of (*q.v.*).
- , percentages in and below comfort and above and in want (*Momen*) (328), 22,403.
- , poverty of (*Momen*) (323, 328), 22,271, 22,297.
- , present economic position of (*Finlow*) 18,671-18,677.
- , proportion of, in debt (*Finlow*) (5), 17,820-17,822.
- , prosperity of, declining (*Momen*) 22,346-22,358, 22,434-22,437.
- , *see also* Standard of living.
- Damdotpat, rule of, should be enforced (*Ahmed U.*) (533), 24,201-24,206.
- Dishonest accounting by moneylenders, not common (*Mukherjee*) 20,508, 20,509.
- , prevention of (*Peddie*) 23,436-23,440.
- , regarded as cause of indebtedness (*Mitra*) (129), 19,813.
- Interest charged by moneylenders, excessive (*Peddie*) (426, 427).
- , excessive from April to July (*Ahmed U.*) (533).
- , from ordinary cultivators, taken in paddy (*Roy*) 24,318.
- , rate of, (*Roy*) 24,301-24,304.
- , reduced by credit societies (*Peddie*) 23,309, 23,310, (*Mitra*) 19,496, 19,497.
- , should be limited (*Peddie*) (427).
- Jute, and rice, effect of high prices of, on prosperity of cultivators (*Finlow*) (5, 6).
- , fluctuations in price of, a serious cause of indebtedness (*Mitra*) (129), 19,810-19,812.
- , note on average price of (*Finlow*) (81).
- Land, is passing out of the hands of real cultivators (*Peddie*) (426), 23,301.
- , is not passing from cultivators (*Roy*) 24,567, 24,568.
- Landlords, and moneylenders, are oppressing cultivators (*Ahmed M.*) (558, 560), 24,573, 24,578.
- , discourage meetings of cultivators (*Roy*) 24,525, 24,526.
- , take little interest in village affairs (*Roy*) 24,526.
- Limitation, law of, abuses under (*Ahmed U.*) (534).
- Litigation, as a cause of debt (*Mukherjee*) (177), 20,446-20,450.
- , is chiefly with regard to indebtedness and rents (*Ahmed U.*) 24,217.
- Medical charges as a cause of debt (*Mukherjee*) (177), 20,279-20,282.
- Mohammedans, do not generally object to taking interest (*Ahmed H.*) 20,062-20,070.

INDEX.

AGRICULTURAL INDEBTEDNESS—contd.

- Moneylenders, dishonest accounting by (*q.v.*).
 _____, interest charged by, see Interest.
 _____, large numbers of 'amateur' (*Peddie*) 23,442.
 _____, need for more control of, by licensing and inspection
 (*Peddie*) (427), 23,349-23,354, 23,437-23,441.
 _____, numbers and capital of, increasing (*Peddie*) 23,434, 23,435.
 _____, the chief source of credit (*Peddie*) (426), (*Mullick*) (350),
 (*Ahmed U.*) (533).
 Moneylending landlords (*Mitra*) 19,896-19,904.
 Mortgage and sale, right of, should be limited (*Ahmed U.*) (534),
 24,214-24,216.
 _____, should not be limited (*Mitra*) (130),
 (*Momen*) (323), (*Peddie*) (427).
 Mortgages, redemption of (*Burrows*) 23,802-23,805.
 Non-terminable mortgages, should be restricted (*Mitra*) (130).
 _____, should be prohibited (*Peddie*) (427).
 Occupancy rights of cultivators (*Mullick*) 22,503-22,507.
 Primary education and social reforms, need for, to lighten burden of debt
 (*Peddie*) (426).
 Reasons preventing repayment (*Finlow*) (5), (*Mitra*) (129), (*Ahmed H.*)
 (169), (*Mukherjee*) (177), (*Morgan*) (272), (*Mullick*) (350), (*Ahmed*
M.) (558).
 Rural indebtedness, a necessary evil (*Bentley*) (241).
 _____, amounts to about 60 crores in Bengal (*Mitra*), 19,819,
 19,823.
 _____, is more or less stationary (*Mitra*), 19,828, 19,829,
 20,000-20,003.
 _____, methods of reducing (*Mitra*) (130), 19,815-19,818,
 (*Bentley*) (241), (*Peddie*) (426).
 _____, special measures to deal with, unnecessary (*Mitra*)
 (129), (*Mukherjee*) (177), (*Ahmed M.*) (558).
 _____, statistics regarding, value of (*Mitra*) 19,656-19,659.
 Sources of credit (*Mitra*) (129), (*Ahmed H.*) (169), (*Morgan*) (272),
 (*Ahmed M.*) (558).
 Standard of living, increase in, harmful because due to borrowing
 (*Mullick*) (350), 22,619-22,621a.
 _____, see also under WELFARE.
 Usurious Loans Act, not used in Faridpur district (*Burrows*) 23,766-23,769,
 23,799, 23,801, 23,858, 23,859 23,899-3,902.
 _____, of no assistance (*Momen*) (323), 22,294, 22,295.
 _____, provisions of, too vague (*Peddie*) (427), 23,307.
 _____, should be enforced (*Ahmed H.*) (169), 20,056-20,061,
 20,071, (*Peddie*) (427), 23,367-23,383.
 _____, should not be enforced (*Mitra*) (129), 19,814.
 _____, unsatisfactory because many judicial officers are in
 sympathy with moneylending classes (*Ahmed U.*)
 (533, 534), 24,251, 24,252.

AGRICULTURAL INDUSTRIES.

- Bengalis, are backward in matters of trade and industry (*Ray*) 22,802,
 22,803, 22,837-22,845, partly owing to permanent settlement 22,862.
 Committees on lines of Indian Central Cotton Committee, might foster
 subsidiary industries (*Finlow*) (12).
 Conditions for success of subsidiary industries (*Burrows*) (476).
 Co-operative and Industries Departments, should organise societies for
 cotton-ginning, rice-husk-
 ing, &c. (*Finlow*) (12).
 _____, should study market facilities
 for subsidiary industries
 (*Finlow*) (12).
 Co-operative rice mill, experiment with (*Mitra*) (133).
 Cottage industries, cannot be reorganised on bigger scale (*Mullick*) (351),
 22,465, 22,466.
 _____, Official Summary of, inaccurate (*Burrows*) (475).

INDEX.

AGRICULTURAL INDUSTRIES—*contd.*

- Cottage industries, prejudices against, likely to disappear under economic pressure (*Burrows*) (475).
 _____, reasons for survival of (*Burrows*) (475).
 _____, survey and study of, essential (*Burrows*) (475).
- Cultivators, activities of, during different periods of the year (*Morgan*) (273), (*Ahmed U*) 24,186-24,188.
 _____, are confined to bed for 60 to 90 days a year through illness (*Mullick*) (351), 22,457-22,461, 22,483, 22,484; see also *Malaria under WELFARE*.
 _____, attitude of, towards subsidiary industries (*Mitra*) (133).
 _____, have ample time for subsidiary industries (*Ahmed H*) (170), (*Bentley*) (244), (*Roy*) (366, 367), 22,893, (*Peddie*) (430), (*Burrows*) (474) (*Roy*) 24,358-24,364, (*Ahmed M*) (559).
 _____, have little spare time in Pabna district (*Ahmed U*) (536), 24,185.
 _____, number of days worked by (*Finlow*) (12), (*Mitra*) (133), (*Mukherjee*) (179), 20,470-20,472, (*Bentley*) (243).
 _____, number of days worked by, no indication of their ability to adopt subsidiary occupations (*Finlow*) (12).
 _____, should be occupied all year round in intensive agriculture (*Finlow*) (12).
 _____, can be so occupied in irrigated tracts (*Finlow*) (12).
 _____, usually have some subsidiary occupation (*Finlow*) (12), (*Momen*) 22,176-22,180.
- Demand for products of subsidiary industries, creation of, the best means of encouraging them (*Bentley*) (244).
- Factories in rural areas, establishment of, difficult as they require whole-time skilled labour (*Morgan*) (273).
 _____, hindered by bad communications (*Momen*) (327), (*Peddie*) (431).
 _____, on co-operative or joint stock basis, desirable (*Mukherjee*) (179).
 _____, subsidies and adequate transport facilities for, should be provided (*Momen*) (327), (*Ahmed, M.*) (559).
 _____, must be started by Government (*Ahmed, H.*) (170), (*Momen*) (327), (*Burrows*) 23,689, 23,690.
 _____, result of (*Finlow*) 18,007-18,013.
 _____, undesirable (*Mullick*) (351).
- Failure of certain subsidiary occupations, reasons for (*Burrows*) (474).
- Fruit and vegetable growing (*Finlow*) (12), 18,002, 18,003, (*Bentley*) (244).
 _____, work on, by Agricultural Society of India (*Morgan*), 21,803-21,807.
- Future of subsidiary industries, doubtful owing to industrial competition (*Mullick*) (351), 22,462-22,464.
- Government, rôle of, in regard to subsidiary occupations (*Mitra*) (133), (*Ahmed, H.*) (170), (*Momen*) (326, 327), 22,369-22,374, (*Roy*) 22,921-22,928, (*Peddie*) (430).
- Gunny bag making (*Ahmed, H.*) (170).
- Hydro-electric development (*Finlow*), 18,004-18,006, 18,008.
- Industrial unions, need for starting (*Peddie*) (431).
- Investigation of possibilities of rural industries, need for (*Peddie*) (431).
 _____, not needed (*Mitra*) (133), 19,835, 19,836.
- Jute spinning and weaving (*Mitra*) (133).
- Lac culture (*Finlow*) (12), 17,992-17,996.
- Marketing, importance of facilities for, for subsidiary industries (*Finlow*) (12), (*Mitra*) (133), 19,830.
 _____, provision of better facilities for, work of Co-operative and Industries Departments (*Finlow*) (12).

INDEX.

AGRICULTURAL INDUSTRIES—contd.

- Marketing, question of, does not arise when products are consumed at home (*Mitra*) 19,831, 19,832.
- Mat-making (*Ray*) 22,711-22,713.
- Necessity for subsidiary industries, should be taught in schools (*Peddie*) (430).
- Non-official help, essential for subsidiary industries (*Peddie*) (430).
- Obstacles to subsidiary industries (*Mukherjee*) (179), (*Bentley*) (244), (*Peddie*) (430), (*Ahmed, M.*) (559).
- Part-time occupations, are under Industries Department (*Finlow*) 17,990.
- _____, distinct from subsidiary industries (*Finlow*) 17,981, 17,982.
- _____, suggestions for (*Finlow*) 17,990-17,992.
- _____, value of, in areas where one paddy crop only is grown annually (*Finlow*) 17,982-17,989.
- Pisciculture (*Finlow*) 18,133-18,135, 18,374-18,377, 18,384, (*Bentley*) (245), 21,277, 21,278, 21,281, (*Burrows*) 23,686-23,688, (*Ahmed, U.*) (536).
- Rope-making (*Mitra*) (133).
- Rural industries, decay of, has increased pressure of population on soil (*Ray*) (365, 366), 22,697-22,699, 22,897, 22,898.
- _____, due to importation of manufactured products (*Ray*) (366), 22,894-22,896.
- Sericulture (*Finlow*) (12), (*Bentley*) (245).
- _____, average income from, 23,339.
- _____, note on (*Appendix*) (435-442), 23,280-23,284, 23,340.
- _____, should be made whole-time occupation where possible, 23,344, 23,345.
- _____, see also under **CHAUDHURI, Mr. P. C.**
- Spinning and weaving, advantages of (*Mitra*) (133), (*Mullick*) 22,470-22,482.
- _____, economics of (*Ray*) 22,777-22,781, 22,794-22,801, 22,804, 22,805, 22,822-22,836, 22,902-22,916, 22,929, 22,930.
- _____, formerly the universal subsidiary occupation of India (*Ray*) 22,787-22,793, 22,816-22,820.
- _____, generally undertaken by women (*Ray*) 22,810-22,821.
- _____, most suitable subsidiary occupation for cultivators (*Ray*) (367), 22,714, 22,764-22,769.
- _____, must go together (*Ray*) 22,782-22,786, 22,931.
- _____, propaganda for, effect of (*Ray*) 22,714-22,716, 22,770-22,776.
- Standard of living, desire for better, not a sufficient inducement to take up subsidiary occupations (*Burrows*) (475), 23,682-23,685.
- Subsidiary industries, Definition of (*Finlow*) 18,007.
- _____, Suggestions for (*Momen*) (326), (*Ahmed, U.*) (536), (*Ahmed, M.*) (559).
- Tree cotton growing and spinning (*Finlow*) (12), (*Mitra*) (133), 19,458-19,462.
- Weaving, handloom, the most promising subsidiary industry (*Burrows*) (475).
- _____, need for instruction in (*Burrows*) (475).
- Village improvement by spare-time labour, possibility of (*Mitra*) 19,833, 19,834.

AGRICULTURAL LABOUR.

- Cultivable uncultivated lands, area of (*Bentley*) (245), (*Finlow*) 18,347-18,352, 18,419-18,423, 18,428, (*Momen*) 22,154-22,161.
- _____, colonisation of, suggestions for (*Mitra*) (134), (*Mukherjee*) (180), (*Bentley*) (245).
- _____, difficulties of cultivating (*Finlow*) 18,424-18,431.
- _____, inhospitable (*Finlow*) (13), 18,108-18,110, 18,354-18,356.

INDEX.

AGRICULTURAL LABOUR—*contd.*

Cultivable uncultivated lands, method of obtaining, by ryots (*Momen*) 22,162-22,172.

_____, unsuitable for giving to agricultural graduates (*Finlow*) 18,111.

_____, see also Middle-class youths under EDUCATION.

Importation of labour into Bengal, considerable (*Finlow*) (12).

Labour for tea gardens, details regarding (*Indian Tea Association*) 22,987-22,990, 23,059-23,065, 23,076-23,087, 23,104-23,106, 23,131, 23,132, 23,149-23,151.

Labourers, as a rule dishonest (*Ahmed U*) (532), 24,162-24,166.

_____, piece-rate wages for (*Ahmed U*) 24,163, 24,164.

Migration of labour, confined to wandering tribes (*Peddie*) 23,387-23,395.

_____, from Bengal (*Finlow*) (13), 18,014-18,019, 18,360-18,365.

_____, is local only (*Mullick*) 22,485-22,495.

_____, obstacles to, and suggestions for overcoming (*Indian Tea Association*) (389), 22,986.

_____, seasonal (*Mitra*) (134).

_____, value of publicity to assist (*Momen*) (327).

Shortage of labour, causes of and remedies for (*Finlow*) (13), (*Mitra*) (134), (*Mukherjee*) (180), (*Bentley*) (245) (*Mullick*) (352), 22,467, (*Ahmed U.*) (536), (*Ahmed M.*) (559, 560).

_____, malaria and other illnesses as cause (*Mukherjee*) (180), (*Bentley*) (245), (*Mullick*) (352).

Unemployment amongst *bhadralog* and Anglo-Indian classes (*Finlow*) (12).

_____, proposal for meeting, by establishing larger farms (*Finlow*) (12, 13).

_____, report of committee of investigation (*Finlow*) (12), 18,370.

_____, scope for settlement, in Assam (*Finlow*) (13).

_____, see also Large farms under ATTRACTING CAPITAL.

AHMED, Khan Bahadur Maulvi Hemayat Uddin, Pleader, Barisal, Bengal, (169-171), 20,011-20,075.

AGRICULTURAL INDEBTEDNESS:

Causes of indebtedness (169).

Control of credit, undesirable (169).

Mohammedans, do not generally object to taking interest 20,062-20,070.

Reasons preventing repayment (169).

Sources of credit (169).

Usurious Loans Act, should be enforced (169), 20,056-20,061, 20,071.

AGRICULTURAL INDUSTRIES:

Cultivators, have ample spare time at their disposal (170).

Government, should establish industries using agricultural products (170).

Gunny bag and *chat* making (170).

ANIMAL HUSBANDRY:

Fodder crops, such as guinea grass, can be fitted in with present rotation 20,016-20,020.

_____, need for growing (169).

Improvement of breeds, badly needed (170).

_____, may be effected by provision of better bulls and grazing grounds (170).

CO-OPERATION:

Audit by Co-operative Department, defects of 20,030-20,037, 20,055.

Central Banks, number of primary societies under 20,026, 20,027.

_____, procedure at meetings of 20,045-20,049.

_____, procedure of, in dealing with loan applications 20,043, 20,044.

_____, supervision by 20,025, 20,028, 20,029.

INDEX.

AHMED, H.—*contd.*

Co-OPERATION—*contd.*

- Co-operative movement, chiefly confined to credit societies in Barisal district (170).
_____, illiteracy the main obstacle to (170).
_____, reserves of, *see* Reserves.
_____, success of (170, 171).
Government, role of, towards co-operative movement (170).
Registrar, some of work done by, should be entrusted to private persons (170), 20,049-20,054.
Reserve funds, control of by Registrar undesirable (170), 20,040-20,042.

DEMONSTRATION AND PROPAGANDA :

- Cultivators, disinclined to take expert advice on account of cost of methods suggested (169).
Demonstration farms, should be self-supporting (169).
Demonstrations, if showing fair margin of profit and within cultivators' means, will be adopted (169).
_____, should be made on cultivators' own holdings 20,012-20,015.

EDUCATION :

- Agricultural middle schools, need for (171).
Compulsory primary education with agricultural bias, should be introduced (171).
Primary education, present system of, unsatisfactory (171).
_____, should include education in agriculture (171).

FINANCE :

- Co-operative movement, the best means of financing cultivators (169).
Taccavi, is not popular (169).

HOLDINGS :

- Legislation to keep disputes out of the Courts, need for (170).

VETERINARY :

- Contagious diseases, suggestions for control of (169).
Dispensaries (169).
Research, should be conducted in Provinces (169).
Serum, cannot always be obtained in time (170).
Veterinary Department, should be under Director of Agriculture (169), 20,038, 20,039.

AHMED, Khan Bahadur Moulvi Emaduddin, B.L., Chairman, District Board Rajshahi (557-560) 24,572-24,656.

ADMINISTRATION :

- Agricultural Department, need for increasing subordinate staff of (557).
_____, service afforded by, unsatisfactory (557), 24,576.
District Boards, relations of, with Revenue officers 24,615, 24,616.
_____, with Union Boards 24,625, 24,626.
_____, should be empowered to metal roads and recover cost by taxation 24,577.
Posts and telegraphs, need for cheaper and more extended service by (557).
Railway and steamer facilities, lack of, a hindrance to marketing (557, 560).
_____, unsatisfactory (557).
Union Boards, are in some respects political institutions 24,618-24,624.
_____, relations of, with District Boards 24,625, 24,626.

INDEX

AHMED, M.—*cont.*

AGRICULTURAL INDEBTEDNESS :

- Abwabs, taking of, by landlords, should be prohibited (558, 560), 24,579, 24,580.
- Causes of borrowing (558).
- Landlords and moneylenders, are oppressing cultivators (558, 560), 24,573, 24,578.
- Reasons preventing repayment (558).
- Rural insolvency, special measures to deal with, unnecessary (558).
- Sources of credit (558).

AGRICULTURAL INDUSTRIES :

- Cultivators, work only eight months a year (559).
- Factories, may be encouraged to move to rural areas by offering subsidies and adequate transport facilities (559).
- Obstacles to subsidiary industries (559).
- Suggestions for subsidiary industries (559).

AGRICULTURAL LABOUR :

- Shortage of labour, suggestions for overcoming regional (559, 560).

ANIMAL HUSBANDRY :

- Cattle, health of, permanently ruined by underfeeding (559), 24,605.
- Common pastures, overstocked (559).
- Fodder, cultivation of, as catch crop, should be encouraged (559).
- , shortage of, due to transport difficulties (559).
- , ———, period of (559).
- , supply of, may be increased by compelling cultivators to grow certain amount and landlords to set aside land in each village for pasture (559), 24,606-24,610.

BATAI SYSTEM : Operation of 24,597-24,601.

CO-OPERATION :

- Agricultural and joint farming societies, value of (560).
- Co-operative movement, existing system unsatisfactory (560).
- , should be encouraged by appointment of special officers (560), 24,633, 24,634.
- Credit societies, should be under direct Government supervision (558), 24,636.
- Naogaon Ganja cultivators' co-operative society, success of (560), 24,635.
- Sale societies, need for (560).
- Villages, should each come under co-operative society assisted by Government funds (560).

CROPS :

- Firearms, should be supplied to members of co-operative societies to prevent damage by wild animals (558).
- Seed, should be distributed on credit and cost realised after harvest (558).

DEMONSTRATION AND PROPAGANDA :

- Cultivators, large, should be induced to attend demonstrations and adopt improvements (557).
- , may be induced to adopt expert advice by offer of prizes and holding of fairs (557).
- Demonstration work by Agricultural Department, hindered by lack of staff 24,644-24,648.
- Demonstration farms, work of 24,629, 24,630.
- Demonstrations of fertilisers by private firms, better than that of Agricultural Department 24,627, 24,628, 24,644, 24,645.

INDEX.

AHMED, M.—*cont.*

EDUCATION :

- Adult education, may be popularised by appointing more demonstrators (557).
- Agricultural graduates, should be provided with capital for purchase of implements and cattle (557).
- Child labour, demand for, interferes with education (560).
- Compulsory primary education, necessary (560).
- Government service, the chief inducement to study agriculture (557).
- School farms or plots, should be attached to upper primary and middle schools (560).
- Teachers in rural areas, should be drawn from agricultural classes 24,638-24,642.
- Teaching facilities, urgent need for extension of (557).

FERTILISERS :

- Artificial fertilisers, price of, should be reduced (558).
- , propaganda for, by private firms 24,627, 24,628, 24,645, 24,646.
- , scope for employment of (558).
- , should be supplied on credit and price recovered after harvest (558).
- Cowdung as fuel, use of, may be limited by lowering price of coal (558), 24,643.
- Sulphate of ammonia, use of (558), 24,602-24,604.

FINANCE :

- Co-operative movement, the best means of financing agricultural operations (558).

HOLDINGS :

- Co-operative societies, with Government assistance, may keep disputes out of courts (558).
- Cultivators, may be compelled to cultivate land co-operatively (558).
- Hindu and Mohammedan law, an obstacle to consolidation (558).

IMPLEMENTS :

- Improved implements, may be supplied to co-operative societies on long term credit (559).

- IMPROVEMENTS : Government should advance money to big agriculturists to carry out (560).

IRRIGATION :

- Irrigation, lack of funds for, the chief obstacle (558).
- , scope for, in Northern Bengal (558).

MARKETING :

- Co-operative sale societies, need for (560).
- Existing market facilities, unsatisfactory (560).
- Jute, in storage, making information concerning known to cultivators 24,588.
- , minimum price of, should be fixed and broadcast before sowing commences (560), 24,586-24,596.
- Post and telegraph services, extension of, will enable cultivators to learn market rate of crops (557).
- Transport facilities, lack of, an obstacle (560).

SOILS :

- Barind land, has deteriorated for want of manure (558).
- Jungles, need for reclamation of land covered by (558).

VETERINARY :

- Cultivators, organised co-operatively, might employ Veterinary Assistants (559), 24,581, 24,582.
- District Boards and dispensaries 24,617.
- Inoculation, popular once its advantages are realised (559).
- Serum, cost of, borne by District Boards 24,611-24,614.

INDEX.

AHMED, M.—*cont.*

VETERINARY—*contd.*

- Serum, cost of, militates against use 24,650-24,653.
- , occasionally difficult to obtain (559), 24,583.
- , should be distributed free (559), 24,583-24,585.
- Veterinary Assistants, itinerating, more useful than dispensaries (559).
- , need for further (558).
- Veterinary Department, should be independent of Agricultural Department (559).
- Veterinary research, should be conducted in Provinces (559).

WELFARE :

- Economic surveys of villages, should be carried out by Government (560).

AHMED K.B. Moulvi Wasim Uddin, B.L., Chairman, District Board, Pabna (532-537), 24,157-24,252.

ADMINISTRATION :

- Agricultural Dept., need for increasing subordinate staff of (533).
- Meteorological Dept., information supplied by, does not reach cultivators (533).
- Postmasters in villages, should be appointed from village teachers (533).
- Railway officials, are corrupt (533) 24,167-24,171.
- , better educated men should be appointed for (533) 24,172, 24,173.
- Roads, bad condition of, a hindrance to marketing (533, 536).

AGRICULTURAL INDEBTEDNESS :

- Causes of borrowing (533).
- Damdopat, rule of, should be enforced (533), 24,201-24,206.
- Law of Limitation, abuses under (534).
- Litigation, is chiefly with regard to indebtedness and rents, 24,217.
- Moneylenders, demand exorbitant interest from April to July (533).
- , the principal source of credit (533).
- Mortgage and sale, right of, should be limited (534), 24,214-24,216.
- Usurious Loans Act, unsatisfactory because many judicial officers are in sympathy with moneylending classes (533, 534), 24,251, 24,252.

AGRICULTURAL INDUSTRIES :

- Cultivators, activities of, during different months, 24,186-24,188.
- , have little spare time for subsidiary industries in Pabna district (536), 24,185.
- Suggestions for subsidiary industries (536).
- Tanks for pisciculture, excavation of, often forbidden by zemindars (536).

AGRICULTURAL LABOUR :

- Labourers, as a rule dishonest (532), 24,162-24,166.
- , piece-rate rates for 24,163, 24,164.
- Shortage of labour, exists in Bengal (536).
- , seasonal, methods of meeting (536).

ANIMAL HUSBANDRY :

- Common pastures, facilitate spread of disease (536).
- Fodder, period of shortage of (536).
- Pasture, reservation of land for, may be encouraged by remission of revenue (536).
- Improvement of breeds, suggestions for (536).

ATTRACTING CAPITAL :

- Liability to loss occasioned by fluctuating prices of agricultural produce, discourages investment of money in land (537).

INDEX.

INMED, U.—*cont.*

CO-OPERATION :

- Audit fees, should be reduced or abolished (537).
- Central Banks, have been of benefit to cultivators (537).
- Credit societies, growing unpopularity of, due to unlimited liability of members 24,174-24,177, 24,222-24,225, 24,243-24,250.
- Ignorance of majority of members of co-operative societies, renders them liable to exploitation by literate few (537), 24,227-24,229, 24,234-24,242.
- Liability of members of co-operative societies, should be limited (533), 24,178, 24,179.
- Non-officials, may render valuable help to co-operative movement 537.
- Purchase and sale societies, generally fail through ignorance of members (537).

CROPS :

- New crops, scope for (535).
- Wild boars, need for campaign to destroy (535).

CULTIVATION :

- Soil examination, value of, to ensure proper rotation and growing of suitable crops (535).
- Tillage, improvement of existing system of, depends on provision of better implements and more labour (535).

DEMONSTRATION AND PROPAGANDA :

- Demonstration farms, are run on expensive lines (532), 24,207, 24,208.
_____ , experiments at, must be kept distinct from demonstrations 24,160.
- _____ , examples of success of (532), 24,209-24,212.
- _____ , profit and loss accounts should be kept at (532)
- Demonstrations on cultivators' own fields, value of (532), 24,161.

EDUCATION :

- Cultivators, do not appreciate the real object of education (537).
- Maktab schools 24,220.
- Nature study, useful (532).
- Primary education, financing of 24,219, 24,233.
- _____ , need for compulsory (537), 24,232.
- School farms and plots, of, little value (532).

FERTILISERS :

- Adulteration, should be prevented by legislation and instruction as to its detection (534).
- Demonstrations of value of fertilisers, useful (534).

FINANCE :

- Long term credit, should be given on easy terms for purchase of land and cattle, and building (533).
- Short term credit, at low interest, should be given for seed, fodder and wages (533).
- Taccavi, need for strict supervision of repayment of (533).
- _____ , should be given to individual cultivators and not on joint bond (533).

HOLDINGS :

- Joint cultivation, may minimise loss due to excessive subdivision (534).
- Legislation for consolidation, should provide for adequate compensation where necessary (534).

IMPLEMENTS :

- Improved implements, extra cost of, should be paid by Government to start with (535).
- _____ , need for (535).
- _____ , value of demonstrations of (535).

INDEX.

AHMED, U.—*cont.*

IRRIGATION :

- Irrigation in Pabna district, damage due to lack of (534).
 _____, need for (534), 24,181, 24,184.
 _____, nothing done to provide 24,180.
 _____, wells for, unsatisfactory 24,182, 24,183.

MARKETING :

- Communications, need for better, to facilitate marketing (533, 536)

SOILS :

- Agricultural and Sanitary Improvements Act, use of, should be encouraged (534).
 Soil investigation, need for (535).
 Waterlogging, damage done by, in Pabna district (534).

VETERINARY :

- Common pastures, lead to spread of disease (536).
 Dispensaries, may be under Government rather than local bodies (535).
 _____, need for further (535).
 Inoculation, prejudices against, disappearing (535).
 Legislation to prevent spread of contagious disease, need for (535).
 Veterinary Surgeons, number of, inadequate (535).

WELFARE :

- Economic surveys of villages, need for (537).
 Government should take initiative in promoting sanitary measures in rural areas (537).
 Tenants, should be given power to make wells, etc. (537).

ANIMAL HUSBANDRY.

- Agricultural Dept., has neglected animal husbandry (*Momen*) 22,192.
 Animal nutrition, importance of adequate, not recognised by cultivators (*Burrows*) 23,680, 23,681, 23,819, 23,820.
 _____, investigation of value of (*Kerr*) (101) 19,201-19,208, 19,225, (*Mitra*) (133).
 Brahmini bull system (*Ray*) 22,674-22,676.
 Bullocks, number required for given holding (*Roy*) 24,546.
 _____, smallness of, an obstacle to use of improved implements (*Finlow*) (10).
 _____, thought by cultivators to be too small for improved implements (*Finlow*) (11), 18,788, 18,789.
 Bulls, arrangements for providing (*Finlow*) 17,938, 17,939.
 _____, demand for, comes chiefly from co-operative societies 17,954.
 _____, increasing (*Finlow*) (11).
 _____, distribution of, to District Boards (*Finlow*) 18,698-18,700, (*Ray*) 22,917-22,919.
 _____, value of supplying good, to agriculturists (*Momen*) (325).
 Cattle-breeding, difficult owing to lack of pastures (*Mukherjee*) 20,391-20,399.
 _____, farms for, employment of Veterinary Assistants at (*Kerr*) (101), 19,314-19,320.
 _____, need for (*Kerr*) (101).
 _____, not carried out in Bengal (*Finlow*) (11), 17,930-17,932, (*Kerr*) 19,229, 19,230, (*Roy*) 24,549.
 _____, should remain under Agricultural Dept. (*Kerr*) 19,295.
 Cattle cakes (*Kerr*) 19,226-19,228, (*Finlow*) 18,127-18,129.
 Cattle Expert, forthcoming appointment of (*Kerr*) (101).
 _____, may be under Agricultural or Veterinary Department (*Kerr*) 19,343-19,346.
 Cattle farms (*Finlow*) 18,692-18,697, (*Kerr*) (101).
 _____, see also Ranghpur farm.
 Cattle Improvement Committee, suggestion for (*Kerr*) (101).
 Cattle in Bengal, bad condition of (*Ray*) (366).
 _____, due to land being easily tilled (*Mitra*) (132).

INDEX.

ANIMAL HUSBANDRY—*contd.*

- Cattle in Bengal, improvement of, compared with that in England (*Ray*) (365), 22,866-22,873.
- _____, large numbers imported annually (*Kerr*) 19,153, 19,158-19,162, 19,325-19,329.
- _____, number of, 25 million (*Kerr*) 19,159.
- _____, small draft animals preferred (*Kerr*) 19,150, 19,151.
- _____, too small (*Kerr*) 19,152.
- _____, underfed (*Finlow*) 17,955-17,958 (*Momen*) (325), (*Ahmed M.*) (559), 24,605.
- Common pastures, *see* Pastures.
- Condition of country in rains and cost of feeding, prevent the keeping of good cattle (*Morgan*) (273).
- Co-operative agricultural and dairy farm at Ranaghat, scheme for (*Mukherjee*) (179), 20,334-20,337, 20,464-20,469, 20,380-20,382.
- Co-operative animal husbandry societies, scope for (*Momen*) 22,193.
- Co-operative dairy farms, Government assistance for (*Ray*) 22,920.
- Co-operative milk societies, success and work of (*Mitra*) (132).
- Co-operative Milk Union, Calcutta, idea of, capable of expansion (*Kerr*) 19,215, 19,271.
- _____, municipal subsidy for (*Kerr*) (98), 19,269, 19,270.
- _____, success of, in inducing owners to take interest in their cattle (*Kerr*) (98).
- _____, work of (*Kerr*) (98), 19,209-19,214, 19,266-19,268, (*Mitra*) (132), 19,888, 19,891.
- Cows, food given to (*Roy*) 24,550-24,555.
- _____, neglect of (*Kerr*) 19,170-19,173, (*Ray*) (365).
- _____, often too small for good bulls to be used (*Mullick*) 22,658-22,660, (*Peddie*) (430).
- Crossing, of Indian breeds (*Kerr*) 19,156, 19,231.
- _____, with European strains, more liable to disease (*Finlow*) 18,472-18,174.
- _____, valuable only for milk supply (*Finlow*) 17,934-17,936, (*Kerr*) 19,149, 19,235-19,237.
- Cultivators, measures necessary to interest, in animal husbandry (*Kerr*) (102).
- Dairying, (*Mitra*) (132).
- _____, almost unknown in Bengal (*Momen*) (326).
- _____, can be improved by co-operative methods (*Mukherjee*) (179); *see also various headings, commencing* Co-operative.
- _____, demand for products (*Kerr*) 19,219, 19,220.
- _____, might be carried out at jails and Government farms (*Kerr*) (101).
- _____, should be taught by Agricultural Department (*Momen*) (326).
- _____, training in (*Finlow*) (11).
- Dual purpose breed (*Finlow*) 17,933.
- European cattle, susceptibility of, to rinderpest (*Kerr*) 19,335-19,338.
- Fodder, effect of feeding with, on milk yield (*Kerr*) 19,287-19,294, 19,300-19,302, 19,339-19,341.
- _____, famines of, not common in Bengal (*Finlow*) 18,026, (*Shebbeare*) 20,633, 20,634.
- _____, possibility of increasing, by village forests (*Shebbeare*) (207).
- _____, preservation of, in forest areas, for sale to cultivators (*Shebbeare*) 20,632, 20,635-20,639.
- _____, need for research on (*Finlow*) 17,971, 17,972.
- _____, *see also* Silage.
- _____, scarcity of, period of (*Finlow*) (11), (*Kerr*) (102), (*Mitra*) (133), (*Momen*) (326), (*Peddie*) (430), (*Burrows*) (474), (*Ahmed U.*) (536), (*Roy*) 24,337-24,339, (*Ahmed, M.*), (559).
- _____, due to cultivators selling their stock owing to high prices (*Mitra*) (133).
- _____, due to transport difficulties (*Ahmed, M.*) (559).

INDEX.

ANIMAL HUSBANDRY—*contd.*

- Fodder, supply of, has decreased owing to pressure on land and jute cultivation (*Ray*) (366), 22,679-22,681.
- Fodder crops (*Finlow*) (9-11).
- _____, can be grown on paddy land (*Roy*) 24,342-24,346.
- _____, demonstrations to popularise (*Momen*) (325), (*Mullick*) 22,664, 22,665, (*Burrows*) (474).
- _____, fertilisers to increase (*Hutchinson*) (299), 22,069.
- _____, growing of, as catch crop, should be encouraged (*Ahmed, M.*) (559).
- _____, can be fitted in with present rotation (*Ahmed, H.*) 20,016-20,020.
- _____, might be encouraged by remission of revenue (*Finlow*) 17,975-17,978.
- _____, in winter months, necessary (*Burrows*) (474).
- _____, need for (*Kerr*) 19,163-19,165, (*Ahmed, H.*) (169), (*Ray*) 22,874-22,878, (*Peddie*) (430).
- _____, irrigation needed for (*Finlow*) (11), 17,959, 17,960 (*Ahmed, H.*) (242), 21,239-21,241, (*Morgan*) (273), 21,668, (*Roy*), 24,347.
- _____, must be substituted for grazing (*Finlow*) (11).
- _____, not grown at present (*Finlow*) 18,124-18,126, (*Bentley*) (242), (*Morgan*) 21,668, (*Mullick*) 22,653, (*Momen*) (325).
- _____, reservation of land for (*Momen*) (326), (*Ahmed, M.*) (559), 24,606-24,610.
- Milk, adulterated, deliberately bought in Calcutta (*Finlow*) 17,942-17,953.
- and milk products, increased consumption of, would be beneficial (*Bentley*) 21,239.
- _____, increased production of, impossible without fodder and therefore irrigation (*Bentley*) 21,240, 21,241.
- _____, supply of in Calcutta, inspection of (*Bentley*) 21,265-21,268.
- _____, condensed, used for children even in villages (*Ray*) (366), 22,681-22,683.
- _____, demand for good quality (*Finlow*) 17,937.
- _____, harm done by lack of (*Ray*) (365, 366), 22,684.
- _____, legislation for purity, none exists outside Calcutta (*Finlow*) 17,940.
- _____, valuable but difficult to administer (*Finlow*) 17,941.
- _____, enforcement of, in Calcutta (*Finlow*) 17,942-17,944.
- _____, price of, to-day, compared with 55 years ago (*Ray*) 22,682, 22,685-22,687.
- _____, in rural areas, too high to permit of general consumption (*Bentley*) 21,269-21,273.
- _____, production of, decreased by underfeeding of cattle (*Ray*) 22,730.
- _____, scarcity of (*Roy*) 24,348, 24,349.
- _____, supply of, deteriorating (*Roy*) 24,354.
- _____, in Calcutta (*Finlow*) 17,942-17,953.
- Mustard cake, the giving of, to cattle (*Finlow*) 18,127-18,129.
- Ghi, pure, difficult to obtain (*Roy*) 24,350.
- Grass-cutting, allowed in all forests (*Shebbeare*) 20,623-20,625.
- Grasses grown in forest areas (*Shebbeare*) 20,733.
- Grazing, difficulty of, when land is flooded (*Burrows*) (474).
- _____, forest, a cause of fires (*Shebbeare*) (206, 207), 20,648, 20,649.
- _____, allowed in some reserved forests (*Shebbeare*) 20,622-20,624, 20,879-20,881.
- _____, cannot be extended (*Shebbeare*) (206).
- _____, damage caused by excessive (*Shebbeare*) (206, 207), 20,648, 20,649.
- _____, many blocks open to, should be closed (*Shebbeare*) (206).
- _____, method of combating, by stall-feeding (*q.v.*).
- _____, only affects villages in immediate neighbourhood (*Shebbeare*) 20,885-20,888.
- _____, should be discouraged (*Shebbeare*) 20,722.

INDEX.

ANIMAL HUSBANDRY—*contd.*

- Grazing, in private forests (*Shebbeare*) 20,626.
 —, result of cheap, in causing deterioration of cattle (*Shebbeare*) (206), 20,630-20,632.
 —, use of bamboos for (*Shebbeare*) 20,739.
 —, *see also* Pastures.
 Improvement of breeds, by crossing and selection (*Finlow*) (11).
 —, by castration of inferior animals (*Mukherjee*) (179).
 —, by prohibition of slaughter of prime and dry cows (*Mukherjee*) (179), 20,257-20,260.
 —, by provision of better bulls and grazing grounds (*Ahmed, H.*) (170).
 —, importance of (*Finlow*) 17,962, (*Mitra*) 19,455, (*Ahmed, H.*) (170).
 —, suggestions for (*Ahmed, U.*) (536).
 Jails, herds kept at, their utilisation for cattle improvement (*Kerr*) (101), 19,234, 19,308-19,310.
 —, might be used for dairy work (*Kerr*) (101).
 Pastures, common, facilitate spread of disease (*Ahmed U.*) (536).
 —, grazing on, of poor quality (*Finlow*) (11), (*Mitra*) (133).
 —, lack of (*Momen*) (326), (*Peddie*) (429, 430).
 —, overcrowded (*Finlow*) (11), (*Momen*) (326), (*Ahmed M.*) (559), (*Mitra*) (133), (*Peddie*) (430).
 —, have been usurped by zamindars (*Roy*) 24,355-24,357.
 —, have declined (*Ray*) (368), 22,680.
 —, increase of, difficult (*Ray*) 22,890-22,892.
 —, of no food value (*Kerr*) 19,303-19,307.
 —, provision of land for (*Ray*) 22,846-22,849, (*Mukherjee*) (179), 20,294-20,299.
 —, will be encouraged by remission of revenue (*Ahmed U.*) (536).
 —, value of enclosed (*Ray*) 22,863-22,870, 22,877.
 Ranghpur cattle farm, distribution of half-bred bulls from (*Finlow*) 18,466-18,475.
 —, is under Agricultural Department (*Finlow*) 18,464, 18,465.
 —, work at (11).
 Sheep and goats, need for further study of breeding of (*Finlow*) 17,973, 17,974.
 Silage (*Finlow*) 17,965-17,970, (*Kerr*) (102), 19,166-19,169, (*Mitra*) 19,456, 19,457, (*Mullick*) 22,668-22,672, (*Peddie*) (430).
 Sindi cattle, liability of, to rinderpest (*Kerr*) 19,310, 19,331-19,338.
 Stall-feeding, introduced by Forest Department to stop damage done by grazing (*Shebbeare*) (206), 20,734.
 —, not practised in plains (*Shebbeare*) (207).
 Underfeeding, the cause of poor quality of cattle (*Bentley*) (242), (*Hutchinson*) (299).
 Water hyacinth, use of, as fodder (*Burrows*) 23,676-23,679, 23,821-23,824.

ATTRACTING CAPITAL.

- Capital, its investment in moneylending rather than agricultural improvement (*Morgan*) 21,730-21,736, (*Peddie*) (433).
 Capitalists, factors discouraging them from taking to agriculture (*Momen*) (327), (*Mullick*) (352), (*Peddie*) (433), (*Ahmed U.*) (537).
 —, might be encouraged to take to agriculture by Government help (*Mukherjee*) (180), (*Ahmed M.*) (560).
 Joint ownership, makes co-operation for land improvement impossible (*Morgan*) (274), 21,735, 21,736.
 Land improvement, factors discouraging investment of money in (*Finlow*) (14), 18,122, 18,123, (*Mitra*) (136), (*Ahmed U.*) (537).
 —, *see also* Tenancy Act.
 Landlords, generally apathetic with regard to agriculture (*Finlow*) (12), 17,979, 17,980, (*Peddie*) (433).

INDEX.

ATTRACTING CAPITAL—*contd.*

- Landlords, need for educating (*Peddie*) (433).
 Large farms, establishment of, would displace peasant proprietors and be unsound (*Finlow*) (14), (*Mitra*) (136).
 _____, income from, less than from small holdings (*Finlow*) (14), 18,299-18,309, 18,553.
 Renting of land, pays better than farming (*Momen*) (327).
 Tenancy Act, Bengal, reacts against investment of money in land improvement (*Mukherjee*) (180), 20,301-20,308, (*Mitra*) (136).
 Batai system, operation of (*Mukherjee*) 20,289-20,293, (*Ahmed M.*) 24,597-24,601.

BENTLEY, Dr. C. A., M.B., D.P.H., Director of Public Health (240-247).
 21,146-21,459.

ADMINISTRATION :

- Budget of Medical and Public Health Departments 21,293-21,296, 21,414.
 _____ of Public Health Department, includes items for other subjects 21,294.
 _____, should be increased 21,296-21,298.
 Co-operative public health movement, good work done by (242), 21,429-21,431, 21,437-21,440.
 _____, has taken root in rural areas 21,432-21,436.
 _____, independent societies now formed for 21,377, 21,431.
 _____, relations of, with Union Boards 21,181-21,185, 21,376, 21,377.
 Director of Public Health, legal work of, prevents touring 21,400.
 Financing of public health work 21,175-21,177, 21,356-21,369, 21,456-21,459.
 Health officers, are under local bodies 21,160.
 _____, training of 21,167.
 Legislative Council, attitude of, towards public health matters 21,422-21,424.
 Loans policy for financing sanitary improvements, need for 21,364-21,368.
 Local Boards to deal with specific subjects, preferable to bodies having multiplicity of functions 21,445-21,448.
 Local bodies, attitude of, towards public health questions 21,172-21,175, 21,416-21,418.
 _____, continuity of policy of 21,419-21,421.
 _____, financial aid for, for public health work 21,175-21,177, 21,356-21,364, 21,368, 21,369.
 _____, local taxation by, for public health purposes 21,425-21,427.
 _____, midwives under 21,396-21,399.
 _____, public health staff under 21,160-21,169.
 _____, scheme for increasing 21,353-21,355.
 _____, should keep their own statistics 21,402.
 Private practitioners in rural areas, subsidising of 21,178, 21,179.
 Public Health Act, Bill for in Bengal, fate of 21,171, 21,378, 21,379.
 _____, for rural areas only, needed first 21,380.
 _____, need for 21,170.
 Public Health Department, co-operation of, with Agricultural Department 21,449.
 _____, with Education Department, 21,188.
 _____, with Irrigation Department, 21,289, 21,290, 21,450.
 _____, difficulties of, owing to cumbersome system of control 21,180.
 _____, in Bengal, wrongly regarded as minor department 21,349, 21,350.
 _____, staff of 21,152-21,169.

INDEX.

BENTLEY, Dr. C. A.—cont.

ADMINISTRATION—contd.

- Public Health Department, staff of, insufficient 21,353.
- Public health organisation in Bengal 21,151-21,169.
- Sanitary Board, duties of 21,415.
- Sanitary inspectors, are under local bodies 21,160.
- _____, inspection of schools by 21,195-21,200.
- _____, numbers of 21,164.
- _____, training of 21,161-21,163.
- Union Boards, area of jurisdiction of 21,186, 21,187.
- _____, probability of failure of 21,182-21,185, 21,445-21,448.
- _____, relations of, with Co-operative Public Health Societies 21,181-21,185, 21,376, 21,377.
- _____, unit for, artificial 21,371-21,375.
- _____, *see also* Local bodies.

AGRICULTURAL INDEBTEDNESS :

- Causes of indebtedness (240).
- Cultivators, indebtedness of, a measure of prosperity rather than poverty (240).
- _____, usually indebted to full extent of their credit (240, 241).
- Rural indebtedness, a necessary evil (241).
- _____, methods of reducing (241).

AGRICULTURAL INDUSTRIES :

- Area sown twice compared with net cropped area (243).
- Area under fruit and vegetables, figures for (244).
- Cultivators, have usually time for subsidiary occupations (244).
- _____, number of days worked by (243).
- Demand for products of subsidiary industries, creation of, the best means of encouraging them (244).
- Fruit and vegetable industry, dependent on local demand (244).
- Obstacles to subsidiary industries (244).
- Pisciculture (245), 21,277, 21,278, 21,281.
- Sericulture, decay of (245).

AGRICULTURAL LABOUR :

- Shortage of labour, partly due to ill-health (245).
- Uncultivated cultivable area, area of (245).
- _____, colonisation of, would be facilitated by irrigation (245).

ANIMAL HUSBANDRY :

- Fodder crops, almost non-existent (242).
- _____, irrigation necessary to permit of growing (242), 21,239-21,241.
- Milk, and milk products, increased consumption of, would be beneficial 21,239.
- _____, increased production of, impossible without fodder and therefore irrigation 21,240, 21,241.
- _____, supply of in Calcutta, inspection of 21,265-21,268.
- _____, price of, in rural areas, too high to permit of general consumption 21,269-21,273.
- Underfeeding, cause of poor quality of cattle (242).

CO-OPERATION :

- Co-operative public health movement, *see under* ADMINISTRATION.

CROPS :

- Cropped area in Bengal, has progressively declined through lack of irrigation (241, 242).
- Crop production, effect of irrigation on (241), 21,322-21,329.

DEMONSTRATION AND PROPAGANDA :

- Baby shows 21,441, 21,442.
- Propaganda for public health purposes 21,382-21,388, 21,402, 21,404, 21,441, 21,442.

INDEX.

BENTLEY, Dr. C. A.—*cont.*

EDUCATION :

- Education Department, help given by, to public health work 21,188.
- Sanitary appliances in schools, defective 21,194.
- _____, inspection of 21,195-21,199.
- Schools, inspection of, by officers of Public Health Dept. 21,195-21,200.
- Teachers, training of, in elementary hygiene 21,193.
- Text books on hygiene, satisfactory 21,189, 21,192, 21,199.

FORESTS :

- Afforestation, might be dangerous to health in neighbourhood of villages (246).
- _____, must have beneficial effect on rainfall (246).
- Denudation of forests, has led to soil erosion (246).

IRRIGATION :

- Cropped area in Burdwan, has progressively declined through lack of irrigation (241, 242).
- Crop production, effect of irrigation on (241), 21,322-21,329.
- Distribution of water, methods of, unsatisfactory (242).
- Fodder, need for irrigation to produce (242, 246), 21,239-21,241.
- Higher lands, irrigating of 21,342-21,345.
- Irrigation, at one time extensive in Bengal (241).
- _____, decay of, causes of (241).
- _____, effect of, to cause economic decline 21,338, 21,339.
- _____, importance of and scope for further (241), 21,238, 21,370.
- Irrigation Department, co-operation of, with Public Health Dept. 21,289, 21,290, 21,450.
- Malaria, irrigation as a cause of 21,405, 21,406.
- _____, irrigation as a remedy for (246), 21,346.
- Non-perennial canals, need for (241).
- Obstacles to extension of irrigation (242).
- Rivers, confinement of, harmful effects of (241), 21,291, 21,292.
- Tanks, belong in most cases to private owners 21,279.
- _____, improvement of existing, financial difficulties of 21,286-21,288.
- _____, Government grant for 21,362-21,364.
- _____, legislation for 21,282-21,287.
- _____, obstacles to (245).
- _____, of no value without larger supply of water 21,280-21,283.
- _____, majority of, do not hold water throughout the year 21,278.
- _____, need for (241).
- _____, use of, for pisciculture (245), 21,277, 21,278, 21,281.
- Uncultivated cultivable lands, colonisation of, would be facilitated by irrigation (245).

RESEARCH :

- Statistical research on agriculture and allied subjects, need for (240), 21,147-21,150.

SOILS :

- Drainage and bunds for reclamation of land (246).

STATISTICS :

- Agricultural statistics, inaccurate but valuable 21,317, 21,318.
- Bowie, Mr., his work on statistics (247), 21,315, 21,316.
- Danger of relying on present statistics, owing to frequent changes in methods of collecting and estimating (247).
- Graphic form for statistics, value of 21,401.
- Local bodies, should keep their own statistics 21,402.
- Medical statistics, reliability of 21,319-21,321, 21,330, 21,331.
- Modern statistical methods, need for employment of (247), 21,147.
- Statistical agricultural survey of India, need for (247).
- Statistical clerks, need for one in each Province 21,148.
- _____, training of 21,149.
- Statistics, value of, for administrators 21,401, 21,407, 21,408.
- Vital statistics, and economic conditions, close relationship between 21,150, 21,228.
- _____, improvement of 21,409, 21,410.

INDEX.

BENTLEY, Dr. C. A.—cont.

TARIFFS:

- Export duty on jute, affects cultivators adversely and should be reduced or abolished (246).
 _____, proceeds from, should be controlled by Bengal Government and largely utilised to benefit the industry (246).

WELFARE:

- Asymptotic level, depends on standard of living 21,232.
 _____, has nothing to do with food supply 21,229-21,231.
 _____, not yet reached in Bengal 21,229.
 Bengal, is unhealthy compared with other Provinces 21,347, 21,348.
 Beri-beri, causes of 21,223-21,225.
 Birth control, not yet reached rural areas 21,234.
 Cholera, can be eradicated (247), 21,180, 21,353, 21,451.
 Cinchona cultivation 21,341.
 Diet in Bengal, badly balanced 21,218-21,221, 21,276, 21,303-21,310.
 _____, change in, in last 10 years 21,428.
 _____, education and propaganda, to secure improvement in 21,310-21,314.
 Economic surveys of villages, suggestion for (247).
 Epidemic diseases, staff to combat, could be provided at small expense (247).
 _____, would enable many diseases to be eradicated (246, 247).
 Fish, decline in consumption of (245), 21,277, 21,278, 21,281.
 Hookworm, campaign against 21,202-21,208.
 _____, ravages of 21,201.
 Housing in Eastern Bengal, fairly satisfactory 21,261-21,264.
 Kala-azar, can be eradicated (247).
 _____, is spreading 21,209-21,211.
 _____, mode of infection 21,212.
 Malaria, effect of, on prosperity of cultivators (247).
 _____, irrigation, effect on, *see under* IRRIGATION.
 _____, population infected with, 33 millions 21,330, 21,331.
 Malnutrition, prevalent 21,218, 21,306.
 Nutrition, work on, importance of 21,226, 21,227.
 _____, in Bengal 21,301-21,304.
 _____, should be carried out in each Province 21,274, 21,275, 21,299.
 _____, *see also* Diet.
 Population, growth of, has not reached asymptotic level 21,229.
 _____, increase in, governed by death rate rather than birth rate (245).
 _____, in Eastern Bengal, has declined as result of prosperity 21,232.
 _____, in Western Bengal, has declined as result of adversity 21,233-21,235.
 Phthisis, is spreading 21,215, 21,216.
 Quinine, distribution of, through post offices a failure 21,340.
 Standard of living, has increased in Eastern Bengal 21,232.
 _____, increase in, lowers birth rate 21,232-21,237, 21,351, 21,352.
 Water supply, demand for 21,252, 21,253.
 _____, finance the obstacle to provision of 21,253-21,256, 21,286-21,288, 21,365.
 _____, from tube wells, occasionally unsuitable 21,242-21,248.
 _____, grants to local bodies for wells and tanks for 21,250, 21,251.
 _____, importance of pure 21,249.
 _____, provision of, present policy for 21,362, 21,363.
 _____, should be financed from loans 21,364-21,369.
 Windmills, use of, for pumping water 21,258-21,260.

INDEX.

BURROWS, Mr. L., B.A., Collector of Faridpur (471-493), 23,653-23,956.

ADMINISTRATION :

- Communications, suggestions for improvement of, in Faridpur district (476).
- District and Union Boards and Civil Service, relations between 23,885-23,892, 23,909-23,911.
- Water hyacinth, Bill for eradication of, in Burma 23,717, 23,718.
- _____ , conscription of labour for eradication of, difficult 23,853-23,855.
- _____ , if not dealt with will choke waterways and fields 23,857.
- _____ , interprovincial co-operation to check 23,719-23,721.
- _____ , legislation against useless without scheme of operation 23,716.
- _____ , proposed scheme for eradication of (Appendix II) (482-486), (478), 23,666-23,668, 23,722-23,730, 23,811.
- _____ , use of, as fertiliser, *see under* FERTILISERS.
- _____ , as fodder, *see under* ANIMAL HUSBANDRY.
- Waterways, the chief means of communication in Faridpur district (476).

AGRICULTURAL INDEBTEDNESS :

- Mortgages, redemption of 23,802-23,805.
- Usurious Loans Act, not used in Faridpur district 23,766-23,769, 23,799-23,801, 23,858, 23,859, 23,899-23,902.

AGRICULTURAL INDUSTRIES :

- Conditions for success of subsidiary industries (476).
- Cottage industries, Official Summary of, inaccurate (475).
- _____ , prejudices against, likely to disappear under economic pressure (475).
- _____ , reasons for survival of (475).
- _____ , survey and study of, essential (475).
- Cultivators in Faridpur district, have ample spare time for subsidiary occupations (474).
- Failure of certain subsidiary occupations, reasons for (474).
- Government, must give lead in starting subsidiary occupations 23,689, 23,690.
- Pisciculture 23,686-23,688.
- Standard of living, desire for better, not a sufficient inducement to take up subsidiary occupations (475), 23,682-23,685.
- Weaving, handloom, the most promising subsidiary industry (475).
- _____ , need for instruction in (475).

ANIMAL HUSBANDRY :

- Feeding, importance of adequate, not recognised by cultivators 23,680, 23,681, 23,819, 23,820.
- Fodder, crops for, demonstration of (474).
- _____ , growing of during winter the only remedy (474).
- _____ , period of shortage of (474).
- Grazing, difficulty of, when land is flooded (474).
- Water hyacinth, use of, as fodder 23,676-23,679, 23,821-23,824.

CO-OPERATION :

- Co-operative inspectors, not under district officers 23,794, 23,795, 23,816, 23,817.
- Co-operative societies, idea of, good but methods of forming capable of improvement 23,770, 23,771, 23,775, 23,776, 23,786-23,788.
- _____ , might be helped by Collectors and Circle Officers 23,789-23,798. 23,883, 23,884.

INDEX.

BURROWS, Mr. L., B.A.—*contd.*

DEMONSTRATION AND PROPAGANDA :

Agricultural Department, should co-operate with Collectors in demonstrations (472).

—————, *see also under* Collectors and Circle Officers.

Agricultural survey of each district, need for detailed, on which to base plan for propaganda (472), 23,829-23,838, but does not come within Collector's duties 23,757-23,762.

Cinemas and magic lanterns, more valuable than pamphlets (472).

Circle Officers and agricultural work (472).

Collectors, importance of their collaboration in agricultural work (472), 23,672-23,675.

—————, resolution directing their attention to importance of assisting agriculture, desirable 23,870-23,874.

Co-operative societies and Agricultural Associations, not likely to be successful in demonstration work (472), 23,669-23,671. *See also* Union Boards.

Cultivators, are not very conservative (472).

—————, will adopt improvements once their value is demonstrated (477).

—————, but are sceptical of those demonstrated under conditions beyond their means (472), 23,846-23,848.

Demonstration farms, possess resources not available to cultivators and are therefore unconvincing (472), 23,846-23,848.

Demonstrations on cultivators' own fields, have the best chance of success 23,849, 23,850.

Demonstrators, need for more (472).

District agricultural officers, their efficiency for propaganda 23,740-23,745.

Jute and paddy, value of improved varieties of (471).

Research, of no value unless its results are incorporated in general agricultural practice (471).

Union Boards, likely to be more successful for propaganda than co-operative societies 23,875-23,882.

EDUCATION :

Circle officers, instruction of, in agriculture and co-operation, desirable 23,885-23,889.

Middle-class youths, problem of unemployment amongst, serious (471).
—————, scheme for utilisation of *khas mahal* land for settlement of (471), 23,731-23,738, 23,747-23,756, 23,839-23,845.

—————, alternative method of solving unemployment amongst, by diminishing supply, undesirable 23,860-23,869.

FERTILISERS :

Water hyacinth, use of, as manure 23,825.

FINANCE :

Agriculturists Loans Act, loss of money lent under, small 23,780.

—————, only resorted to in times of scarcity 23,777-23,779.

—————, provision of joint security demanded by, not difficult 23,893-23,895.

Land Improvements Act, could be used to greater extent 23,782, 23,783, 23,818.

—————, lack of use of, due to want of enterprise of owners 23,784, 23,785.

—————, period allowed for repayment of loans under 23,896-23,898.

HOLDINGS :

Average cultivated holding in Faridpur district, size of (475), 23,930.

Consolidation, difficulties of 23,704-23,708, 23,812-23,815.

Land, availability of additional, and effect of occupancy rights thereon 23,747-23,752, 23,914-23,927, 23,937-23,949.

INDEX.

BURROWS, Mr. L., B.A.—*contd.*

IRRIGATION :

- Deltaic rivers, control of 23,657-23,662.
- Irrigation, scope for minor in Faridpur district 23,658.
- Irrigation Department, scope for further activity by 23,655, 23,663-23,665.

MARKETING :

- Aratdars, function of (476, 477).
- Beparis, function of (476).
- Co-operative jute sale societies, should limit their activities to collecting and storing crop and selling to large commercial firms (477), 23,696, 23,697.
- Cultivators, are in touch with market prices (477).
- _____ , hold up their crops for better prices (477, 478).
- Dadan system of advancing money against standing crops, not common (477), 23,694, 23,695.
- Farias, function of (476).
- Forecasts, margin of error in, probably constant (478).
- _____ , might be of demand as well as supply (477), 23,698-23,701.
- Hundis, not used in Faridpur district (477), 23,693.
- Information on market conditions, of little value to cultivators at present owing to their ignorance (477), 23,691.
- Middlemen, have their economic uses and cannot be advantageously eliminated at present (477).
- _____ , margins on which they work (477).
- _____ , may be partly eliminated by co-operative societies (477).

SOILS :

- Agricultural and Sanitary Improvements Act, a dead letter because too cumbrous (472, 473).
- _____ , engineers employed for works under 23,904-23,908.
- _____ , suggestions for improving (473), 23,903.
- Land improvement schemes, demand for (472).
- Major and minor works, need for alteration in definition of (473).
- Minor works, procedure for, should be simplified (473).
- _____ , value of, for improvement of agriculture (473).

VETERINARY :

- Compulsory notification, segregation and inoculation, not advisable at present (474).
- Contagious diseases, rules for reporting of 23,712-23,715.
- Diseased carcasses, disposal of (473, 474).
- Inoculation, advantages of, becoming recognised by cultivators (474).
- Thana dispensaries, scheme for (*Appendix I*) (479-481), 23,739, 23,806-23,810.

WELFARE :

- Economic inquiry in Faridpur district by Major Jack 23,826-23,828.
- Economic survey of Talma village, note on (*Appendix III*) (487-493), 23,702-23,703, 23,763-23,765.
- Economic surveys of villages, difficulties and value of (478), 23,709-23,711.
- Standard of living of cultivators (475), 23,692.

CARPENTER, Mr. P. H., *see* INDIAN TEA ASSOCIATION.

CHATTERJEE, Rai Bahadur Dr. G. C., Secretary, Central Co-operative Anti-Malaria Society (225-227), 20,921-21,145.

CO-OPERATIVE PUBLIC HEALTH MOVEMENT :

- Central Co-operative Anti-Malaria Society, aims of (226).
- _____ , constitution of 20,946-20,949.
- _____ , organisers of (*q.v.*)

INDEX.

CHATTERJEE, Rai Bahadur Dr. G. C.—*contd.*

Co-operative Public Health Movement—*contd.*

- Central Co-operative Anti-Malaria Society, relations of, with village societies 20,950, 21,098.
 _____, subscriptions to and expenditure of 21,088-21,098.
- Co-operative Department, relations of, with village societies 20,925, 20,933, 20,934. (*See also* Village societies, registration of.)
 _____, should pay travelling expenses of organisers engaged in co-operative health work (226), 20,986-20,991.
- Co-operative public health movement, aims of (226).
 _____, confidence of villagers in, gained by its success 20,926, 20,927.
 _____, District Board assistance for 21,050, 21,051.
 _____, Government assistance for (*q.v.*)
 _____, growth of 20,969.
 _____, history of 20,925, 20,933, 20,934.
 _____, popularity of (226).
- Fish for combating malaria 21,005-21,007.
- Government assistance for co-operative health movement 21,043-21,049, 21,093-21,096.
- Irrigation, defects in system of, a cause of malaria (225), 21,106-21,116.
- Kala-azar, can be prevented at low cost (226).
 _____, injection fund for 21,008, 21,069.
 _____, ravages of (226).
- Local bodies, are not giving a lead in public health work on account of defective franchise (226).
 _____, grants given to, for water-supply, not always utilised (225), 21,100-21,103.
 _____, official element in, too strong (226, 227) 21,037-21,042, 21,144, 21,145.
 _____, relations of, with village societies 20,951-20,962, 21,028-21,035, 21,133-21,137.
- Local Self Government Board, to guide autonomous local bodies, need for (227), 21,145.
- Local Self Government system of England, should be adopted in India 21,145.
- Malaria, can be prevented at low cost (226).
 _____, due to negligence (225), 21,016-21,018.
 _____, more prevalent in rural than urban areas 21,021.
 _____, Panama canal as example of effectiveness of measures against (226).
 _____, ravages of (226).
 _____, season of 21,013, 21,014.
- Medical officers, assistance given by 21,127-21,129.
 _____, honorary, work of 21,084-21,087.
 _____, subsidising of, for rural work 20,935-20,945, 21,073-21,083.
- Nutrition questions, cannot at present be dealt with by co-operative health movement 20,977-20,983.
 _____, not of primary importance 21,023-21,025.
- Organisers under Central Society, should be increased (226).
 _____, travelling allowance of, should be paid by Co-operative Department (226), 20,986-20,991.
- Public Health Department, relations of, with village societies 20,923, 20,924, 21,054, 21,055.
- Quinine, free distribution of 21,012.
- Village health societies, are more in touch with Union Boards than Co-operative Department 20,952-20,962, 21,028-21,035.
 _____, can successfully deal with malaria 21,019.

INDEX.

CHATTERJEE, Rai Bahadur Dr. G. C.—*contd.*

CO-OPERATIVE PUBLIC HEALTH MOVEMENT—*contd.*

- Village health societies, can undertake the making of wells (225).
_____, decline of interest in 20,967, 20,968.
_____, given interest-free loans by Central Society to enable them to use Government grants for water supply (225), 20,997-21,000.
_____, Government grants for, given through Union Boards 21,133-21,137.
_____, numbers of (226), 20,929, 20,969-20,972, 21,059-21,063.
_____, registration of, 20,929, 20,992-20,996.
_____, temporary suspension of 21,138-21,140.
_____, share capital of 20,930-20,932.
_____, work of 21,001-21,004, 21,119-21,121.
Village Improvement Board, need for 20,922.
Water supply, Government grant for, not always utilised (225), 21,100-21,103.
_____, interest-free loans for, by Central Society (225), 20,997-21,000.

IMPLEMENTS :

- Central Co-operative Implement Supply Company, need for (225).
Cultivators, will take to improved implements if proper demonstrations are given (225).

CHAUDHURI, Mr. P. C., Deputy Director of Sericulture (119-123), 19,347-19,392.

SERICULTURE :

- Artificial silk, no competition from 19,385-19,389.
Castor leaves as food for silkworms 19,390, 19,391.
Climatic conditions, effect of and need for studying (119).
Co-operative sericulture societies (120, 123), 19,375-19,382.
Courses in sericulture (119, 120).
Demonstration of improved methods of sericulture, staff for (120).
_____, success of (120).
Irrigation for mulberry plants 19,350-19,352, 19,392.
Marketing (122, 123), 19,383, 19,384.
Matka yarns, spinning of (121, 122).
Mulberry cultivation (121), 19,351-19,360, 19,392.
Profits from sericulture 19,361-19,370.
Rearers, causes of indebtedness of (121).
_____, sources of credit of (121).
Reeling 19,371-19,374.
Sericulture, improved apparatus for (122).
_____, possibilities of extending (122), 19,383.
_____, should usually be taken up as subsidiary occupation only (121).
Silk weaving factories in rural areas (122).

COMMUNICATIONS, *see under* ADMINISTRATION.

CO-OPERATION.

- Adult education, success of co-operative night-schools for (*Mitra*) (128), 19,395-19,400.
Agricultural co-operative inspectors, in close touch with Agricultural Dept., need for, to form and supervise agricultural co-operative societies (*Peddie*) (432).
Agricultural unions for financing co-operative societies, need for (*Peddie*) (431).
Agricultural and joint farming societies, value of (*Ahmed M.*) (560).
Anti-malaria societies, *see* Public health societies.
_____, *see also under* CHATTERJEE, Dr. G. C.
Assistant Registrars, work of (*Mitra*) 19,624, 19,625, 19,692-19,694.
Audit of co-operative societies, carried out by inspectors (*Mitra*) 19,499-19,503. *See also* Inspectors.

INDEX.

CO-OPERATION—*contd.*

- Audit of co-operative societies, defects of (*Ahmed H.*) 20,030-20,037, 20,055.
 _____, fees for, pay for audit staff (*Mitra*) 19,620.
 _____, should be reduced or abolished (*Ahmed U.*) (537).
 _____, must be carried out by Government (*Jute Mills Assn.*) (416).
 _____, need for strengthening (*Mitra*) 19,465, 19,466.
 _____, present system, better than audit by chartered accountant (*Mitra*) 19,855.
 _____, one auditor for every 100 societies (*Mitra*) 19,626-19,628.
 _____, of Provincial Bank (*Mitra*) 19,853-19,855.
 Audit fund, control of (*Mitra*) 19,856-19,858.
 Bengal Co-operative Organisation Society, constitution of (*Mitra*) 19,505, 19,506.
 _____, need for encouraging (*Mitra*) (135).
 _____, State aid for (*Mukherjee*) (180), 20,473-20,476.
 Bonemeal, co-operative factories for (*Finlow*) 17,890-17,892.
 Caste difficulties in connection with membership of societies, non-existent (*Momen*) 22,187-22,190.
 Central Banks, capital of (*Mitra*) 19,682-19,685.
 _____, have been of benefit to cultivators (*Ahmed U.*) (537).
 _____, meetings of, attended by members of primary societies (*Mitra*) 19,491-19,493.
 _____, conducted in vernacular (*Mitra*) 19,482-19,487.
 _____, procedure at (*Ahmed H.*) 20,045-20,049.
 _____, need for one, in each Union (*Momen*) 22,182, 22,183.
 _____, number of (*Mitra*) (120), 19,474.
 _____, number of primary societies under each (*Ahmed H.*) 20,026, 20,027.
 _____, often become dividend-earning machines (*Peddie*) (431).
 _____, procedure of, in dealing with loan applications (*Mitra*) 19,722-19,730, (*Ahmed H.*) 20,043, 20,044.
 _____, Ranaghat, capital of (*Mukherjee*) 20,418-20,420.
 _____, deposits in (*Mukherjee*) 20,421-20,427.
 _____, have to be refused on account of surplus (*Mukherjee*) 20,426.
 _____, directors of (*Mukherjee*) 20,430-20,432.
 _____, meetings of, are attended by members of primary societies (*Mukherjee*) 20,521-20,524.
 _____, conducted in vernacular (*Mukherjee*) 20,525-20,527.
 _____, primary societies under (*Mukherjee*) 20,428, 20,429.
 _____, should be linked to money market through Provincial Bank (*Mitra*) (129).
 _____, supervision by (*Ahmed H.*) 20,025, 20,028, 20,029.
 _____, in Bengal, take the place of Supervising Unions (*Mitra*) 19,470-19,473, 19,479-19,481.
 _____, use of, for seed distribution (*Mukherjee*) (178), (*Peddie*) (431).
 Compulsion of obstinate minorities, (*Mitra*) (136), 19,557, 19,558, 19,670-19,675, 19,964, 19,965, (*Momen*) (327), (*Peddie*) (432).
 _____, undesirable (*Mullick*) (352), 22,468, 22,469.
 Co-operative agricultural and dairy farm at Ranaghat, scheme for (*Mukherjee*) (179), 20,334-20,337, 20,464-20,469, 20,380-20,382.

INDEX.

CO-OPERATION—*contd.*

- Co-operative Department, co-operation of, with Agricultural Department
(*Mitra*) 19,660-19,664, 19,765,
19,774, 19,775.
- _____, with anti-malaria societies
(*Chatterjee*) 20,923, 20,933,
20,934; *see also under*
Public health societies.
- _____, with Education Department
(*Mitra*) 19,804-19,809.
- _____, with Irrigation Department
(*Das*) 18,912, (*Mitra*) 19,636-
19,640, 19,966, 19,967.
- _____, with Revenue Department
(*Mitra*) 19,643-19,655.
- _____, of great value and should receive more help
(*Momen*) (319).
- _____, staff of, many belong to same class as members
of primary societies (*Mitra*) 19,906,
19,907.
- _____, requires strengthening (*Mitra*) (135),
19,465, 19,466.
- _____, sent to other Provinces to study
(*Mitra*) 19,850, 19,851.
- _____, should be increased (*Mukherjee*) (180).
- Co-operative Milk Union, Calcutta, *see under* ANIMAL HUSBANDRY.
- Co-operative movement, aims of (*Mitra*) (135).
- _____, chiefly confined to credit societies (*Ahmed H.*)
(170), (*Peddie*) (431)
- _____, educative value of, greater than economic value
(*Mitra*) 19,494.
- _____, existing system of, unsatisfactory (*Burrows*)
23,770, 23,771, 23,775, 23,776, 23,786-23,788,
(*Ahmed M.*) (560).
- _____, financial assistance for, 3 to 4 lakhs (*Mitra*) 19,620-
19,623.
- _____, has 12,000 societies in Bengal (*Mitra*) 19,739.
- _____, illiteracy the main obstacle to extension of
(*Ahmed H.*) (170).
- _____, lack of public demand for extension of (*Peddie*)
(431).
- _____, might be helped by Revenue officers (*Burrows*)
23,789-23,793, 23,883, 23,884.
- _____, periods of surplus and stringency in (*Mitra*)
19,629, 19,635.
- _____, principles of, teaching of, in schools (*Mitra*)
19,791-19,793.
- _____, understood by members of primary
societies (*Mitra*) 19,848, 19,849.
- _____, propaganda through (*Pinlow*) 17,741-17,743,
(*Mitra*) (128).
- _____, soundness of (*Mitra*) 19,641, 19,642, 19,695-19,699,
19,703-19,705.
- _____, spread of, will lighten agricultural indebtedness
(*Mitra*) (130).
- Credit societies, audit of, *see* Audit.
- _____, can give short and intermediate term loans (*Mitra*) (129).
- _____, defect of (*Mitra*) (135), 19,518-19,520, 19,718, 19,719,
19,908.
- _____, distribution of short-term credit by, method for (*Mitra*)
(135), 19,519, 19,520.
- _____, expert advice for (*Mitra*); 19,469, 19,737, 19,738.
- _____, failure of, due to lack of supervision (*Peddie*) (431, 432).

INDEX.

CO-OPERATION—*contd.*

- Credit societies, growing unpopularity of, due to unlimited liability of members (*Ahmed U.*) 24,174-24,177, 24,222-24,225, 24,243-24,250; *see also* Liability.
- _____ , have reduced moneylenders' rates of interest (*Mitra*) (135), 19,496, 19,497.
- _____ , interest charged by, (*Mukherjee*) 20,451-20,453.
- _____ , as high as that of moneylenders (*Roy*) 24,294-24,305, 24,506-24,508.
- _____ , and paid by (*Mitra*) 19,719, 19,720, 19,975-19,980.
- _____ , lend money to townspeople (*Roy*) 24,306-24,309.
- _____ , management of (*Mitra*), 19,468, 19,733-19,736.
- _____ , maximum credit for, fixing of (*Mitra*), 19,867-19,877.
- _____ , only to limited extent in touch with cultivators (*Jute Mills Association*) (416).
- _____ , procedure of, in dealing with loan applications (*Mitra*) 19,722-19,730, *see also* Short-term loans.
- _____ , reserve funds of (*q.v.*)
- _____ , secretaries for (*Mitra*) 19,885-19,887.
- _____ , should be linked to Central Banks (*Mitra*) (129).
- _____ , should be under direct Government supervision (*Ahmed M.*) (558), 24,636.
- _____ , success of (*Ahmed H.*) (170, 171).
- _____ , undertake education, arbitration and social welfare work (*Mitra*) 19,706-19,708.
- _____ , use of, for seed distribution (*Mukherjee*) (178).
- Development Department, need for, to co-ordinate work of agricultural, co-operative and industrial officers (*Peddie*) (432).
- Disputes between co-operative organisations, settlement of (*Mitra*) 19,715-19,717.
- District officers, their help welcomed, but should not be given definite responsibilities towards co-operative movement (*Mitra*) 19,643-19,655.
- Educative value of co-operative movement, greater than economic value (*Mitra*) 19,494.
- Fertilisers, co-operative distribution of (*Mitra*) (131), 19,766-19,771.
- Government, rôle of, in regard to co-operative movement (*Mitra*) (135), 19,689, (*Ahmed H.*) (170), (*Mukherjee*) (180), 20,485, (*Peddie*) (431), (*Ahmed M.*) (558), 24,636.
- _____ , *see also* Organisation of co-operation.
- Grain banks, have not been successful (*Mitra*) 19,751, 19,752.
- Home safes, *see* Savings deposits.
- Ignorance of majority of members of co-operative societies, renders them liable to exploitation by literate few (*Ahmed U.*) (537), 24,227-24,229, 24,234-24,242.
- Implement societies (*Mitra*) (132, 136), 19,913-19,916.
- Inspectors, for auditing co-operative societies, 80 in number, (*Mitra*) 19,500.
- _____ , pay and prospects of (*Mitra*) 19,501, 19,600-19,604.
- _____ , training of (*Mitra*) 19,605-19,609, 19,842-19,847.
- _____ , work of, efficient (*Mitra*) 19,502, 19,503.
- _____ , for propaganda and supervision (*Mitra*) 19,761-19,763.
- _____ , not under district officers (*Burrows*) 23,794, 23,795, 23,816, 23,817.

INDEX.

CO-OPERATION—*contd.*

- Industrial societies (*Mitra*) 19,776-19,778.
 Irrigation societies, *see under* IRRIGATION.
 Joint farming societies (*Mitra*) (136), (*Peddie*) (432).
 Jute buying organisation, co-operative (*Finlow*) (14), 18,061-18,068.
 Jute growers' association, attitude towards a possible, of jute trade (*Jute Mills Association*) 23,224, 23,239, 23,263, 23,264, 23,278.
 _____, no attempt made to form (*Jute Mills Association*) 23,222-23,224.
 Jute sale societies, *see under* MARKETING.
 Land improvement, co-operative societies for (*Mitra*) (131).
 Legislative Council, seats on, should be allotted to representatives of co-operative movement (*Mukherjee*) (180).
 Liability of members of co-operative societies, should be limited (*Ahmed U.*) (533), 24,178, 24,179.
 Liquidation of societies (*Mitra*) 19,709-19,714.
 Marketing, co-operative, *see under* MARKETING.
 Membership of co-operative societies, limited to well-to-do cultivators (*Peddie*) (432).
 Naogaon Ganja cultivators' society, success of (*Ahmed M.*) (560), 24,635.
 Non-credit societies, are independent of credit societies (*Mitra*) 19,747-19,750.
 _____, financing of (*Mitra*) 19,748, 19,749.
 _____, great demand for (*Mitra*) 19,743-19,746.
 _____, need for developing (*Mukherjee*) (180), (*Momen*) 22,181, (*Mullick*) (352).
 Non-official help for co-operative movement (*Mitra*) (135), 19,839-19,841, (*Ahmed U.*) (537).
 Organisation of co-operation in Bengal (*Mitra*) (135, 136), 19,465-19,478, 19,620-19,628, 19,856-19,858.
 Primary schools, financed by profits of co-operative societies, scheme for (*Mitra*) (128), 19,404, 19,794-19,803.
 Provincial Agricultural Federation, need for, to accelerate spread of co-operation (*Peddie*) (432).
 Public health movement, good work done by (*Bentley*) (242), 21,429-21,431, 21,437-21,440.
 _____, has taken root in rural areas (*Bentley*) 21,432-21,436.
 _____, independent societies now formed for (*Bentley*) 21,377, 21,431.
 _____, relations of, with Union Boards (*Bentley*) 21,181-21,185, 21,376, 21,377.
 Public health societies, are not on proper economic basis at present (*Mitra*) 19,547-19,556, 19,669.
 _____, conflict of, with Union Boards (*Mitra*) 19,548, 19,549, 19,665-19,668.
 _____, have been very useful (*Mitra*) (136), 19,543-19,547.
 _____, need for declaration of policy by Government regarding (*Mitra*) 19,547, 19,951-19,958.
 _____, possibility of replacing, by Union Boards (*Mitra*) 19,948-19,950.
 _____, registration of, has been stopped pending declaration of policy by Government (*Mitra*) 19,547, 19,943-19,947.
 _____, *see also under* CHATTERJEE, Dr. G. C.
 Purchase societies, are doing useful work but should handle larger quantities (*Mitra*) (135).
 _____, difficulties of (*Mitra*) 19,909, 19,910.
 _____, generally fail through ignorance of members (*Ahmed U.*) (537).
 _____, may be combined with sale societies (*Mitra*) (19,534-19,542).
 _____, scope for (*Peddie*) (432).
 Registrar, some of work done by, should be entrusted to private persons (*Ahmed H.*) (170), 20,049-20,054.

INDEX.

CO-OPERATION—*contd.*

- Registration of societies, policy in regard to (*Mitra* 20,006-20,010; of public health societies (*q.v.*).
- Repayment of principal and interest, susceptible of improvement (*Mitra* 19,688-19,688, 19,700-19,702.
- Reserve funds, built up from margin between borrowing and lending rates (*Mitra*) 19,731.
- , control of, by Registrar, undesirable (*Ahmed H.*) (170), 20,040-20,042.
- , utilisation of (*Mitra*) 19,732, 19,859-19,866.
- Sale societies, need for (*Ahmed M.*) (560).
- , generally fail through ignorance of members (*Ahmed U.*) (537).
- , should also perform duties of supply societies (*Mitra*) 19,534-19,542.
- , successful but limited in number (*Mitra*) (135).
- , work of (*Mitra*) (135), 19,524-19,533, 19,583-19,589.
- , *see also* Jute sale societies under **MARKETING**.
- Savings deposits, accepted by co-operative societies (*Mitra*) 19,410.
- , in co-operative societies, will replace Post Office savings banks (*Mitra*) 19,410-19,414.
- , home safes for (*Mitra*) 19,410-19,412.
- , rate of interest on (*Mitra*) 19,676-19,678.
- Seed distribution, co-operative, *see under* **CROPS**.
- Short term loans, procedure for distributing from cash credit account in central banks by cheque (*Mitra*) (135), 19,519, 19,520, 19,878-19,882.
- Taccavi, might be used as preliminary to formation of Co-operative Societies (*Finlow*) (9).
- Women's Societies (*Mitra*) 19,742.

DRAWFORD, Mr. T. C., *see* **INDIAN TEA ASSOCIATION.**

CROPS.

- Crop production, effect of irrigation (*Bentley*) (241, 242), 21,322-21,329.
- Crop Protection Act, sufficient protection against external infection (*Finlow*) (10).
- Crop returns and forecasts, *see under* **MARKETING**.
- Cultivators, prefer crops which occupy land for short time only (*Mitra*) (123), 19,405.
- Elephants, damage done by, near forests (*Indian Tea Association*) (388), 22,981-22,985, 23,126, 23,127.
- , efforts by Forest Department to keep down, inadequate (*Indian Tea Association*) (388).
- Firearms, should be supplied to members of co-operative societies to prevent damage by wild animals (*Ahmed M*) (558).
- Food crops, occupy 84 per cent. of land (*Finlow*) 17,903.
- , replacement of, by money crops, not large (*Finlow*) 17,900-17,904.
- , import and export of (*Finlow*) 18,488-18,490, 18,499-18,510.
- Gun licences, should be granted more freely (*Mitra*) (131), (*Mullick*) (351).
- Hybridisation, possibilities of, not yet explored (*Mullick*) (351).
- Improved crops, mean greater drain on soil (*Finlow*) (8), 18,297, 18,298.
- Improvement of existing crops, little scope for (*Momen*) (325), 22,238-22,291.
- , suggestions for (*Peddie*) (429), (*Mukhcrjee*) (178).
- , successful examples of (*Peddie*) (429).
- Indian hemp, dust in (*Finlow*) 18,077, 18,080.
- , rotting water a cause of dust (*Finlow*) 18,078.
- Japanese millet, advantages of (*Finlow*) (9, 10).
- Jute, area under (*Finlow*) 18,340, (*Mitra*) 19,563-19,569.
- , average quality of, has probably deteriorated (*Finlow*) (14).
- , cess on, *see under* **TARIFFS**.
- , cost of cultivation and return on (*Mullick*) (363, 364), 22,627-22,633.
- , cultivators of, economic position of (*Finlow*) (5, 6), 18,490-18,494.
- , improved, co-operation between trade and Agricultural Department in regard to (*Jute Mills Association*) (415).

INDEX.

CROPS—contd.

- Jute, improved, commands a premium (*Morgan*) 21,747-21,751.
- _____, has tendency to revert (*Morgan*) 21,669-21,672.
- _____, increased income due to (*Finlow*) 18,385-18,389.
- _____, increased yield due to (*Mukherjee*) 20,156-20,165.
- _____, mixed with ordinary varieties at mills (*Morgan*) 21,677, 21,678, 21,745-21,749.
- _____, more suitable for Calcutta mills than export (*Morgan*) 21,679.
- _____, seed for, distribution of, *see* Seed distribution.
- _____, is at a premium compared with ordinary seed (*Finlow*) (14), 18,315-18,319.
- _____, price of (*Finlow*) 18,530.
- _____, need for evolving variety of fibre which will suit both Dundee and Indian market (*Mitra*) (131), 19,570-19,573.
- _____, research on (*Finlow*) (2), 18,221-18,227.
- _____, water requirements of (*Morgan*) 21,572-21,578.
- _____, yield of, per acre (*Morgan*) 21,680-21,682.
- _____, if increased, will bring down prices (*Morgan*) 21,787, 21,740-21,743.
- _____, *see also under* **MARKETING**.
- Monkeys, do great damage (*Mitra*) (131).
- _____, objections to destroying, gradually disappearing (*Mitra*) (131), 19,451-19,453.
- New crops, introduction of (*Finlow*) (9), (*Mukherjee*) (178), 20,383-20,388, (*Momen*) (325), (*Peddie*) (429).
- Paddy, area under (*Finlow*) 18,337-18,341, 18,720.
- _____, attempt to replace, in highlands, by heavier-yielding food crops (*Finlow*) (10).
- _____, cost of cultivation and return (*Mullick*) (363, 364), 22,627-22,633.
- _____, cultivators of, effect of high prices on (*Finlow*) (6).
- _____, increased income possible by adoption of improved, 3 crores (*Finlow*) 18,385.
- _____, low yield of, may be due to insufficient cultivation (*Finlow*) 18,478-18,487.
- _____, research on (*Finlow*) 18,101, 18,228-18,234, 18,238-18,244, 18,403, 18,404, 18,445-18,448.
- _____, lack of co-operation with Coimbatore in (*Finlow*) 18,238-18,244, 18,453-18,459.
- _____, lack of co-operation with Bombay in (*Finlow*) 18,452, 18,453.
- _____, need for co-ordination of, between Provinces (*Finlow*) 18,528.
- _____, objects of (*Finlow*) 18,103-18,107.
- _____, should be done locally rather than at Pusa (*Finlow*) 18,095.
- _____, seed for, distribution of (*see* Seed distribution).
- _____, single seedling method with (*Finlow*) 17,906-17,911.
- _____, straw of, used as fodder and not available for paper-making (*Finlow*) 18,345, 18,346.
- Pests and diseases affecting tea plants, under investigation by Scientific Department of Indian Tea Association (*Indian Tea Association*) (388).
- Potato cultivation (*Finlow*) (9), 17,905, 18,329-18,334, (*Mukherjee*) 20,387, 20,388.
- Pulses, organisation of research on (*Finlow*) 18,756-18,762.
- Pure line cultures of staple crops, much work done on (*Finlow*) (9).
- Reporting of pests, if prompt, might enable precautions to be taken (*Finlow*) (10).
- Retting, difficulties of (*Morgan*) 21,683.
- _____, effect of, on quality of jute (*Jute Mills Association*) 23,251.
- _____, experiments on (*Finlow*) 18,236, 18,237, (*Jute Mills Association*) 23,252-23,258.
- Revenue-producing crops (sugarcane, tobacco, etc.), scope for increase in (*Finlow*) (9).
- Rice, *see* Paddy.
- Seed, distribution of improved, commercialisation of (*Finlow*) 17,729.

INDEX.

CROPS—contd.

- Seed, distribution of improved, co-operative (*Finlow*) 17,739, 17,740, (*Mitra*) (131), 19,408, 19,409, 19,559, 19,560, 19,892, 19,893, (*Mukherjee*) (178), (*Morgan*) 21,669, 21,670, (*Peddie*) (431).
- _____ , danger of adulteration (*Finlow*) 17,732, (*Mullick*) 22,519, 22,520.
- _____ , delay a cause of difficulty (*Mitra*) 19,561, 19,562.
- _____ , demand for, growing (*Ray*) 22,724, 22,725.
- _____ , Government agency for, limited (*Finlow*) 17,730.
- _____ , jute, partially failed in 1926 (*Mukherjee*) 20,328-20,333, 20,410-20,417.
- _____ , scheme for guaranteeing Agricultural Department against loss by Jute Mills Association (*Jute Mills Association*) (416).
- _____ , through private seedsman (*Finlow*) 17,726 - 17,728, 17,733 - 17,738, 18,315-18,319, 18,268.
- _____ , may be profitable (*Momen*) (325).
- _____ , need for care in (*Mukherjee*) (178).
- _____ , need for better organisation of (*Mullick*) (351).
- _____ , non-official seed farms for (*Peddie*) 429.
- _____ , paddy, (*Finlow*) 18,101, 18,102, 18,268.
- _____ , partially failed in 1925 (*Mukherjee*) (177), 20,081-20,089, 20,166-20,174.
- _____ , private agency for (*Mitra*) (131), 19,446-19,450.
- _____ , should be one of the chief activities of Government farms, (*Momen*) (325).
- _____ , should be done on credit and cost realised after harvest (*Ahmed M.*) (558).
- _____ , stores, co-operative, for, in each Union Board area (*Mukherjee*) (178).
- _____ , success of (*Mitra*) (128), 19,406, 19,407.
- _____ , distribution of bazaar, is in hands of moneylenders (*Finlow*), 17,731.
- _____ , farms for (*Finlow*) 18,689-18,691, (*Jute Mills Association*) (416), (*Peddie*) (429).
- _____ , method of obtaining improved, for distribution (*Finlow*) 18,268-18,276.
- _____ , policy of distributing free small packets of improved, success of (*Finlow*) 18,772.
- _____ , testing of (*Finlow*) 18,272, 18,274, 18,277, 18,278.
- Sugarcane, adoption of Coimbatore varieties (*Finlow*) 18,137-18,144, 18,460-18,463.
- _____ , handicaps to extension of (*Mullick*) 22,610.
- _____ , more profitable than jute or paddy (*Mullick*) 22,606-22,609.
- Tea, acreage under (*Indian Tea Association*) 23,058.
- _____ , intercultivation with indigo a failure (*Indian Tea Association*) 23,124, 23,125.
- _____ , seed, demand for (*Indian Tea Association*) 23,518.
- Tobacco cultivation, spreading (*Finlow*) (9), 18,519, 18,520.
- Vegetables and fruit, growing of (*Ray*) 24,470-24,477.
- Water hyacinth, see under ADMINISTRATION.
- Wheat, difficulty of extending area of (*Finlow*) 18,495-18,498.
- Wild animals, do not do serious damage in Bengal (*Finlow*) (10).
- Wild pigs, need for campaign to destroy (*Ahmed U.*) (535).
- _____ , rewards for destruction of (*Finlow*) (10).

INDEX.

CULTIVATION.

- Calcutta, effect of, on cultivation of the hinterland (*Finlow*) 18,320-18,328.
 Deep ploughing, unsuited to silted land (*Jute Mills Association*) (416).
 Dry cultivation, methods of tillage (*Finlow*) 17,634-17,639.
 _____, need for assisting (*Finlow*) 17,630-17,633.
 _____, research to assist (*Finlow*) 17,620-17,627, 17,640.
 Existing systems of tillage, satisfactory (*Jute Mills Association*) (416).
 _____, the results of centuries of experience (*Mullick*) (351).
 Improvement of cultivation, by hiring-out of improved implements (*Mukherjee*) (178).
 _____, would enhance productive power of soil (*Hutchinson*) (297), 22,004-22,011.
 Intensive cultivation of small holdings, the ideal to aim at (*Finlow*) (14).
 Jhuming, is causing anxiety in Chittagong hill tracts (*Finlow*) (13), 18,028-18,032.
 Jungles, need for reclamation of land covered by (*Ahmed M.*) (558).
 Kharif and rabi seasons, periods of (*Das*) 18,887-18,896.
 Rotations (*Finlow*) (10), 18,338, 18,339, (*Mullick*) 22,576-22,578.
 Soil examination, value of, to ensure proper rotation (*Ahmed U.*) (535).
 Taungya system of cultivation, see under SHEBBEARE.
 Tractors, see under IMPLEMENTS.
- DAS, Rai Bahadur A. N.,** Officiating Chief Engineer and Secretary to Government, Irrigation Department (82), 18,815-19,134.

CULTIVATION :

Kharif and rabi seasons, periods of 18,887-18,896.

FORESTS :

- Afforestation, to prevent damage from floods (82).
 Deforestation, should not be undertaken in the Terais, near sources of hill streams or along coast (82).
 Forest Department, need for closer co-operation of Irrigation Department with 18,820-18,825, 19,120-19,123.

IRRIGATION :

- Agricultural and Sanitary Drainage Act and minor irrigation works 18,879, 19,069-19,079.
 Area of Presidency short of water October-June, 25 per cent. 18,907.
 _____, none now irrigated 18,908.
 _____, part of, will be covered by Damodar project 18,908.
 _____, scope for irrigating 18,909-18,911.
 Budget of Irrigation Department, apportionment of 18,858-18,865, 19,043, 19,044, 19,048-19,052, 19,056, 19,057.
 Canals in Bengal, capital cost of 19,053.
 _____, certain of, used for navigation only 19,045-19,047.
 _____, none classified productive 18,831.
 _____, return on, 1 per cent. 19,054.
 _____, scope for further (82).
 _____, under construction 18,831-18,834, 18,908.
 _____, velocity of, low on account of navigation 18,999-19,004.
 Contour survey, does not exist in Bengal (82), 18,845, 18,846, 18,943-18,952.
 Co-operation of Irrigation Department, with Agricultural Department close 18,818, 18,819, 18,869-18,873.
 _____, with Co-operative Department 18,912.
 _____, with Forest Department, need for closer 18,820-18,825, 19,120-19,123.
 _____, with Public Health Department 18,923, 18,924, 19,119.

INDEX.

DAS, Rai Bahadur A. N.—*contd.*

IRRIGATION—*contd.*

- Co-operative irrigation societies, given free technical advice 19,110-19,112.
 _____, but undertake schemes on their own responsibility 19,113-19,114.
- Damodar canal project 18,831-18,834, 18,908.
- Data, need for further, before extension of irrigation is possible 18,845-18,848, 19,019.
- , staff of Irrigation Department should be extended to secure 18,847, 19,091.
- Deltaic irrigation schemes, not more difficult than those elsewhere 18,842-18,844.
- Distribution of water, is on acreage basis 18,917-18,922.
 _____, 80 acres to cubic foot for kharif 19,023-19,025.
 _____, unlimited for rabi 19,025, 19,026.
- Drainage schemes undertaken under Drainage Acts, small 19,116-19,118.
- Dredgers owned by Irrigation Department 19,097-19,101.
- Dredging, land raised by, sold as village sites 19,102.
- Embankments, double, have deleterious effect on mouth of river 19,107, 19,108.
 _____, system of, double 19,103-19,106.
- Establishment charges of Irrigation Department, 20 per cent. 18,989-18,992.
- Flooding and flushing of soil, need for investigating possibilities of (82).
- Irrigation cess, collected by special officer 19,027-19,029.
- Irrigation Department, budget of, *see* Budget.
- , co-operation of, with other departments, *see* Co-operation.
- , effect of retrenchment on 19,086, 19,087.
- , is in charge of irrigation, drainage and navigation 18,987.
- , staff of, insufficient (82), 18,841.
- , scheme for increasing, held up by lack of funds 19,092, 19,093.
- , undertakes clearing of waterways from silt and weeds 18,849-18,857.
- Irrigation from canals, often taken for sake of silt rather than water 18,866, 19,124, 19,125.
- Irrigation schemes, scope for, limited owing to heavy rainfall 18,866, 19,065-19,068, 19,082-19,085.
- , programme for, limited to productive schemes 19,088-19,090.
- Lift irrigation, practised on small scale by cultivators 18,962-18,964.
- Minor irrigation works, are undertaken by co-operative societies under Agricultural and Sanitary Drainage Act 18,879, 18,880.
 _____, in Bankura and Birbhum, new executive division for 18,876-18,878.
 _____, might be undertaken by Collector and Local Board 19,070.
 _____, preliminary cost of, at present falls on cultivators 18,880, 19,076-19,078.
 _____, might be borne partly by Government or Local Board 19,072-19,079.
 _____, proposal for, in Birbhum district, at cost of 5 lakhs 18,837, 18,994-18,996.
- Navigable channels, *see* Waterways.
- Paddy, charge for irrigation water for 19,020, 19,021.
 _____, irrigation of *aman* crop 18,966-18,971.
 _____, irrigation of, by excavation of abandoned minor works 19,128, 19,129.
- Productive and unproductive schemes, method of classification 18,827-18,830, 19,061-19,064.

INDEX.

DAS, Rai Bahadur A. N.—*contd.*

IRRIGATION—*contd.*

- Productive schemes, none exist at present 18,831.
 _____, one under construction 18,831-18,834.
 Rainfall, heavy in Bengal 18,866.
 _____, period of shortage of 18,897-18,906.
 Research on irrigation problems, is carried out in Bengal 18,915.
 Rivers, prevention of their tendency to change their course, has been disadvantageous 18,925, 18,926.
 _____, spilling over of, would reclaim land in vicinity 18,926-18,934.
 Silt, clearing of, from waterways, *see* Waterways.
 _____, value of, as fertiliser 18,866-18,868, 19,124, 19,125.
 Storage of water, not undertaken on large scale 18,826.
 Tanks, excavation of abandoned, desirable 19,128, 19,129, 19,132-19,134.
 _____, irrigation from, not a crying need 19,094-19,096.
 Tube wells, investigation of possibilities of irrigation from, desirable 19,131.
 _____, not used for irrigation 19,130.
 Unproductive schemes, two in existence 18,833, 18,839.
 _____, none in contemplation 18,840.
 Velocity of canals, *see* Canals.
 Waastage of water by absorption and evaporation, not acute (82).
 Waterlogging, affects one-tenth area of Presidency 18,942.
 _____, definition of 18,953-18,955.
 _____, drainage, permits land to recover 18,941, 18,956-18,958.
 _____, not required for more than half area, remainder draining itself when rivers go down 18,942.
 _____, due to rainfall 18,956.
 _____, has thrown large areas out of cultivation 18,940.
 _____, investigation of 18,935-18,939.
 _____, pumping of water back into canals, impossible 18,959-18,961.
 Water-table, depth of, in rabi and kharif seasons 18,883-18,886.
 Waterways, are beneficial as facilitating trade 18,972-18,978.
 _____, clearing of, from silt and weeds, undertaken by Irrigation Dept. 18,849-18,857.
 _____, not undertaken by Co-operative agency 18,912-18,914.
 Wells, surface, can be constructed without technical advice 18,881.
 _____, give ample supply throughout year 18,882.

DEMONSTRATION AND PROPAGANDA.

- Agricultural Dept., should co-operate with Collectors in demonstrations (*Burrows*) (472).
 Agricultural survey of each district, need for detailed, on which to base plan for propaganda (*Burrows*) (472), 23,757-23,762, 23,829-23,838.
 Agricultural shows, value of (*Roy*) 24,556.
 _____, at Dacca (q.v.).
 Cinemas (*Finlow*) 17,744-17,751, (*Burrows*) (472), (*Hutchinson*) 21,859-21,863, 21,874.
 Co-operative societies, use of, for agricultural propaganda (*Finlow*) 17,741-17,743, (*Mitra*) (128), (*Burrows*) (472), 23,669-23,671.
 Cultivators, are not in touch with Agricultural Dept. (*Momen*) (322), 22,198-22,204, 22,428, (*Roy*) 24,272, 24,282, 24,283, 24,436, 24,503-24,505.
 _____, conservatism of (*Finlow*) (6), (*Mukherjee*) (177), 20,443-20,445, (*Hutchinson*) (300), (*Momen*) (321), 22,099-22,100, 22,430-22,432, (*Burrows*) (472).
 _____, willingness of, to adopt expert advice (*Ahmed H.*) (169), (*Hutchinson*) (300), (*Momen*) (321), (*Mullick*) (349), (*Jute Mills Assn.*) (415), (*Peddie*) (425), (*Burrows*) (472, 477), 23,846-23,848, (*Roy*) 24,284-24,288, (*Ahmed M.*) (557).
 Dacca agricultural show, difficulty of obtaining information at (*Roy*) 24,273-24,278, 24,500-24,502.

INDEX.

DEMONSTRATION AND PROPAGANDA—*contd.*

- Demonstration farms, are run on expensive lines (*Ahmed U.*) (532), 24,207, 24,208.
- _____ , at present run at a loss (*Momen*) (322), 22,323-22,328, 22,426, 22,427.
- _____ , at Burdwan, existence of, unknown in neighbourhood (*Roy*) 24,279-24,281, 24,404-24,408, 24,424, 24,425, 24,432-24,435.
- _____ , can influence cultivators in their immediate neighbourhood only (*Indian Tea Association*) (387), (*Jute Mills Association*) (415).
- _____ , examples of success of (*Ahmed U.*) (532), 24,209-24,212.
- _____ , experiments at, must be kept distinct from demonstrations (*Ahmed U.*) 24,160.
- _____ , influence of, on cultivation in neighbourhood (*Finlow*) 18,773-18,776.
- _____ , must be run on economic basis (*Ahmed H.*) (169), (*Peddie*) (423).
- _____ , need for a small commercial, near Calcutta, to demonstrate that agriculture can be made to pay (*Mullick*) 22,641-22,646.
- _____ , need for one in each sub-division (*Momen*) (320, 322), 22,194.
- _____ , numbers of (*Finlow*) 17,574-17,577.
- _____ , profit and loss accounts of, should be kept (*Ahmed U.*) (532).
- _____ , possess resources not available to cultivators and are therefore unconvincing (*Peddie*) 23,291, (*Burrows*) (472), 23,846-23,848.
- _____ , work of (*Finlow*) 18,282, 18,283, (*Ahmed M.*) 24,629, 24,630.
- Demonstrations, conditions for success of (*Mukherjee*) (176, 177).
- _____ , examples of success of (*Mitra*) (128), (*Mukherjee*) (177).
- _____ , field, value of (*Peddie*) (423, 424).
- _____ , of scientific methods of production and conversion of raw material into finished products, need for (*Mukherjee*) (176), 20,374-20,379.
- _____ , on cultivator's own holdings, are conducted with guarantee against loss (*Finlow*) 17,724, 17,725.
- _____ , should be conducted with guarantee against loss (*Mukherjee*) 20,406-20,409, (*Mullick*) (349).
- _____ , demand large staff (*Finlow*) 18,768-18,772.
- _____ , difficulty of obtaining consent for (*Peddie*) 23,289, 23,290.
- _____ , suggested methods for (*Mitra*) (128).
- _____ , the best method (*Finlow*) 17,720 - 17,723, (*Ahmed H.*) 20,012-20,015, (*Momen*) 22,194 (*Indian Tea Association*) (387), (*Burrows*) 23,849, 23,850, (*Ahmed U.*) (532), 24,161, (*Roy*) 24,289-24,292.

INDEX.

DEMONSTRATION AND PROPAGANDA—contd.

- Demonstrators, difficulties of (*Momen*) 22,095-22,098.
- _____, importance of personality of (*Momen*) (321).
- _____, increased number required (*Mukherjee*) 20,077-20,080, (*Momen*) 22,195-22,197, (*Burrows*) (472), see also Agricultural Department, staff of, subordinate, under **ADMINISTRATION.**
- _____, methods of (*Finlow*) 18,279-18,281.
- _____, one needed for each thana (*Mukherjee*) 20,226-20,233.
- _____, pay of, (*Finlow*) 18,542.
- _____, possibility of increasing, so that District Officers may be selected from them (*Finlow*) 18,544-18,551.
- _____, present and proposed numbers of (*Finlow*) 18,533-18,536.
- _____, qualifications, training and pay of (*Momen*) 22,420-22,425.
- _____, quality of (*Finlow*) 18,538, 18,539.
- _____, training of (*Finlow*) 17,546-17,560, (*Mukherjee*) 20,234-20,245, 20,600-20,606.
- District Agricultural Officers, propaganda by (*Peddie*) (424), (*Finlow*) 18,401, 18,402, (*Burrows*) 23,740-23,745.
- _____, see also under **ADMINISTRATION.**
- Newspaper published by Agricultural Department, would be valuable (*Roy*) 24,565.
- Propaganda, by fertiliser industry, better than that of Agricultural Department (*Roy*) 24,509, (*Ahmed M.*) 24,627, 24,628, 24,644, 24,645.
- _____, for increasing use of fertilisers, co-operation in, of Agricultural Department (*Hutchinson*) 21,945-21,952.
- _____, need for (*Hutchinson*) (301).
- _____, for public health purposes (*Bentley*) 21,382-21,388, 21,402, 21,404, 21,441, 21,442.
- Publication of research work (*Hutchinson*) 21,872, 21,873.
- Pusa, effect of, on cultivation in neighbourhood (*Hutchinson*) 21,864.
- Research, of no value unless its results are incorporated in general agricultural practice (*Burrows*) (471).
- School farms, use of, for demonstration purposes (*Finlow*) 18,634-18,637.
- Seed, policy of distributing improved, in small packets, free, success of (*Finlow*) 18,772.
- _____, to large number of individuals in one area, success of (*Peddie*) (423, 424).
- Union Boards, likely to be more successful for propaganda than co-operative societies (*Burrows*) 23,875-23,882.
- _____, secretaries of, might act as demonstrators (*Mukherjee*) 20,327.
- Village farms for demonstration purposes, value of (*Finlow*) 18,634-18,637.

DIET see WELFARE.

EDUCATION.

- Adult education, central schools may be used for (*West*) 24,018, 24,027, 24,028.
- _____, classes for, may be held in conjunction with Middle English schools (*Peddie*) (423).
- _____, co-operative movement, help by, for (*Mitra*) (128), 19,395-19,400, (*West*) 24,021-24,025.
- _____, correspondence classes for, scheme of (*West*) (513, 514), 24,139, 24,139a.
- _____, experiments in, need for further, before deciding policy (*West*) 23,966.
- _____, female (*Mitra*) 19,401-19,403, (*Oaten*) 23,545, 23,547.
- _____, hindered by lack of money (*Oaten*) 23,465.

INDEX.

EDUCATION—*contd.*

- Adult education, importance of (*Oaten*) 23,464, 23,466-23,469, (*West*) 23,964, 24,016.
 _____, night schools for (*Mitra*) (128), (*Mukherjee*) (176), 20,500, 20,501.
 _____, note on (*Appendix*) (*Oaten*) (469, 470).
 _____, requires non-official help (*Peddie*) (423).
 _____, scheme for (*West*) (511), 24,026.
 _____, schools for (*West*) (513).
 _____, teachers for, importance of (*West*) 24,059-24,061.
 _____, too important to be entrusted to private agency (*West*) 24,018-24,020.
 Agricultural bias, in middle schools, system to be adopted for (*Finlow*) 18,263-18,265.
 _____, in primary schools, not incompatible with attainment of literacy (*Oaten*) 23,446, 23,447.
 _____, should be given to all education (*Mitra*) (136).
 Agricultural bias schools, forthcoming introduction of (*Finlow*) (3).
 _____, value of (*Finlow*) 17,698, 17,699.
 Agricultural college, at Sabour, history and defects of (*Finlow*) (2, 3).
 _____, failure of (*Finlow*) 18,254.
 _____, need for, in Bengal (*Finlow*) 18,160-18,165, (*Momen*) (320).
 Agricultural education, demand for, depends on agriculture becoming profitable (*Mullick*) 22,542, 22,543.
 _____, lack of (*Finlow*) (3).
 _____, facilities for, lack of (*Mukherjee*) (176), 20,339-20,342.
 _____, in high schools, of little value (*West*) (510).
 _____, in primary schools, unnecessary (*Momen*) (319).
 _____, might be attempted (*Jute Mills Association*) (414).
 _____, impossible (*West*) (510).
 _____, need for practical (*Mukherjee*) (176).
 _____, sought with view to Government service (*Finlow*) (3), (*Mitra*) (128), (*Mukherjee*) (176), (*Momen*) (320), (*Peddie*) (423), (*Ahmed M.*) (557).
 Agricultural middle schools, need for (*Ahmed H.*) (171).
 Agricultural students, lack of openings for (*Oaten*) 23,470-23,473, 23,556.
 _____, may be encouraged by grants of Khas lands and loans (*Mullick*) (349), 22,446-22,451.
 _____, might cultivate waste land in Assam (*Finlow*) 18,111, 18,112.
 _____, need further practical training (*Finlow*) (4).
 _____, should be provided with capital for purchase of implements and cattle (*Ahmed M.*) (557).
 _____, waste land in Bengal, unsuitable for (*Finlow*) 18,111.
 Agricultural text books for rural schools (*Momen*) (320).
 Agriculture, as optional subject for matriculation (*West*) 24,031.
 _____, training of teachers in (*West*) (511), 24,048-24,052.
 _____, see also Agricultural education.
 Books of knowledge, lack of vernacular (*West*) (512), 23,981, 24,140, 24,141.
 Calcutta University Commission, proposals of, for higher agricultural education (*Oaten*) (453, 454).
 Central schools, for adult education (*West*) 24,018, 24,027, 24,028.
 _____, difficulties of (*West*) (511), 24,130-24,133.
 _____, scheme for (*West*) (511), 23,961, 23,962.
 _____, should be centres of village life (*West*) (511), 24,010-24,012.
 _____, should be used by Agricultural and Co-operative Departments as centres for their work (*West*) (511), 24,013, 24,014.
 Child labour, demand for, interferes with education (*Peddie*) (432, 433), (*Oaten*) (454), 23,536, 23,537, (*West*) (511), (*Ahmed M.*) (560).

INDEX.

EDUCATION—*contd.*

- Child labour, demand for, may be met by adjustment of school hours (*Oaten*) 23,538-23,540.
 _____, may be met by continuation and part-time classes (*West*) (511), 24,041, 24,042.
- Chinsura agricultural school, failure of, due to apathy (*Mullick*) 22,538-22,542.
- Compulsory primary education, adoption of, by local bodies (*West*) 23,978.
 _____, cannot be introduced till present school system is altered (*West*) 23,979, 23,980.
 _____, cheaper per child and more effective than voluntary system (*West*) 24,043-24,047.
 _____, contracting-in by parents, suggestion for (*Oaten*) 23,483-23,486, 23,619, (*West*) 23,968-23,971.
 _____, demand for (*Oaten*) 23,509, 23,510, 23,572.
 _____, effect of, on teachers (*West*) 23,979.
 _____, financing of (*Ray*) 22,806-22,809, (*Oaten*) 23,510-23,513, 23,557-23,559, 23,601, 23,608, 23,609.
 _____, legislation for in Bengal, proposed (*Peddie*) (423, 432), (*Oaten*) 23,478, 23,479, 23,497-23,504.
 _____, need for (*Ahmed H*) (171), (*Mukherjee*) (180), (*Ray*) (366), 22,932-22,934, (*West*) (511), (*Ahmed M*) (560), (*Ahmed U*) (537), 24,232.
 _____, not introduced for financial reasons (*Mukherjee*) 20,134-20,145, 20,153-20,155.
 _____, premature withdrawal of children under, means a waste of public money (*Oaten*) 23,480-23,482.
- Co-operative principles, teaching of, in schools (*Mitra*) 19,791-19,793.
- Cultivators, their opinion of education (*Ahmed U*) (537), (*Roy*) 24,367-24,370.
- Dacca Agricultural Institute, course to be given at (*Finlow*) (3), 18,249, 18,256-18,260.
 _____, entrance standard for (*Finlow*) 18,250-18,253.
 _____, is in effect an agricultural college (*Finlow*) 17,704-17,707.
 _____, practical and theoretical training at, will be kept distinct (*Finlow*) 18,259.
 _____, scheme for, held up for lack of funds (*Finlow*) 17,660, 17,661.
 _____, to be linked to Dacca University (*Finlow*) 17,709-17,719.
 _____, will not be confined to training officers for Department (*Finlow*) 18,167.
 _____, but training of such officers will be its principal work (*Finlow*) 18,169.
- Dacca agricultural school, after-careers of pupils at (*Finlow*) (4), 17,700-17,702.
 _____, conditions of entry to (*Finlow*) (4).
 _____, has only half complement of students (*Finlow*) (3).
 _____, is controlled by Agricultural Department (*Finlow*) 18,784-18,786.
 _____, pupils at, about half come from agricultural classes (*Finlow*) 17,662-17,666.
 _____, syllabus of (*Finlow*) 17,667, 17,668.
 _____, teaching at, is in the vernacular (*Finlow*) 17,669-17,676.

INDEX.

EDUCATION—*contd.*

- Dacca agricultural school, utilised for refresher courses for demonstrators (*Finlow*) (3).
- Dacca training college, course at (*West*) 23,994, 24,071-24,073, 24,120-24,126.
- _____, pupils at (*West*) 23,972, 23,999.
- _____, numbers of (*West*) 24,118, 24,119.
- _____, instruction of, in improved educational methods (*West*) 23,995, 23,996.
- _____, in work of Agricultural and other Departments (*West*) 24,074.
- _____, visit Dacca farm (*West*) 24,032.
- _____, relations of, with University (*West*) 24,115-24,117.
- _____, teaching of agriculture at (*West*) 23,997, 23,998, 24,000-24,006.
- District agricultural officers, training of (*Finlow*) (3), 17,659.
- District farms, courses for cultivators at (*Finlow*) (4), 17,703.
- District school committees (*Oaten*) 23,579-23,589, 23,639-23,648.
- Education, expenditure on, *see* Expenditure.
- _____, financing of, *see* Financing.
- _____, higher, does nothing to raise agricultural efficiency (*Peddie*) (432).
- _____, unsettles boys for the land (*Morgan*) (273).
- _____, unrelated to rural economy (*Oaten*) (454).
- _____, the panacea for most evils (*Mukherjee*) (181).
- Education Department, co-operation of, with Co-operative Department (*Mitra*) 19,804-19,809, (*Oaten*) 23,620-23,622.
- _____, with Public Health Department (*Bentley*) 21,188.
- Educational advancement, essential for agricultural improvement (*Oaten*) 23,445.
- Educational survey of Bengal, need for (*Oaten*) 23,575-23,577.
- English educational methods, not necessarily successful in India (*West*) 23,966.
- Examination at end of primary course, to prevent children leaving earlier, need for (*Oaten*) (454), 23,632-23,634.
- Expenditure on education, figures for (*Oaten*) 23,497-23,504, 23,604-23,607.
- _____, in Bengal, compared with other Provinces (*Oaten*) 23,560, 23,561.
- _____, on higher education, cannot be diverted to primary (*Oaten*) 23,552.
- _____, on higher education, disproportionately high (*Oaten*) 23,506-23,509, 23,548-23,551.
- Female education, adult (*Oaten*) 23,545, 23,547, (*Mitra*) 19,401-19,403.
- _____, compulsory (*Oaten*) 23,565.
- _____, difficulties and importance of (*Oaten*) 23,460, 23,546.
- _____, inspectresses for (*Oaten*) 23,493-23,496.
- _____, no demand for (*Oaten*) 23,543-23,545.
- _____, teachers for (*Oaten*) 23,461-23,463.
- _____, value of, from point of view of literacy of children (*West*) 23,967.
- Financing of education (*Finlow*) 18,620-18,622, (*Mukherjee*) 20,145-20,155, 20,321, 20,322, 20,567-20,570.
- _____, *see also* Expenditure on education and Grants-in-aid.

INDEX.

EDUCATION—*contd.*

- Fines for absence, deter parents from sending children to school (*Peddie*) (433).
- Grants-in-aid, harmful effects of system of (*West*) (510), 23,976, 23,977, 24,037-24,040, 24,066-24,070, (*Oaten*) 23,592-23,594.
- Guru training schools (*Oaten*) 23,595-23,597.
- _____, numbers of (*Oaten*) 23,487-23,489.
- _____, pupils at, might be taken over Government farms (*Oaten*) 23,649-23,652.
- Honours graduates of Bengal Universities, promising in research work (*Finlow*) 17,646-17,651, 18,164, 18,165.
- Hygiene in schools, teaching of (*West*) 24,102-24,108.
- Illiteracy, causes of relapse into (*West*) (512, 513), 24,017.
- _____, inefficiency of teachers as cause of (*West*) 24,053-24,058.
- _____, number of children leaving school without learning to read (*West*) (513).
- _____, vicious circle of (*West*) (512), 23,965.
- Indian research workers, training of, in India (*Finlow*) 17,646-17,652.
- _____, in Europe, after post-graduate course in India (*Finlow*) 17,654-17,658.
- _____, work of (*Finlow*) 17,653.
- Inspecting staff, for female education, *see* Female education.
- _____, lack training in problems of primary education (*West*) (510), 24,035, 24,136.
- _____, not selected from agricultural classes (*Oaten*) 23,615, 23,616.
- _____, qualifications of (*Oaten*) 23,598, (*West*) 24,079-24,082.
- _____, should have some acquaintance with agriculture (*Oaten*) (454).
- _____, taking certain percentage of agricultural graduates for, undesirable (*West*) 24,083-24,095.
- Intermediate colleges (*West*) 24,127, 24,128.
- Libraries, value of (*West*) 23,981, 23,982.
- Literacy, lapse from, owing to lack of reading matter (*Oaten*) 23,524-23,526.
- _____, once attained is rarely lost (*Finlow*) 17,691.
- _____, only attained by small proportion of those attending primary schools (*Finlow*) 17,687.
- _____, possibility of increasing (*Finlow*) 17,690.
- _____, tendency of, to unsettle boys for the land (*Oaten*) 23,532-23,535.
- _____, the primary aim of education (*Finlow*) 17,684, 17,685, (*Oaten*) 23,446.
- _____, value of, to agriculture (*Finlow*) 17,687-17,689, (*Oaten*) 23,527-23,531.
- Maktab schools (*Ahmed U*) 24,220.
- Middle-class youths, attracting of, to agriculture (*Finlow*) (4), 17,693-17,696, (*Mukherjee*) (176), 20,340-20,343, 20,366-20,379, (*Momen*) (321), (*Mullick*) 22,495-22,499, (*Peddie*) (423).
- _____, agricultural ventures by, have failed (*Mukherjee*) (176), 20,441, 20,442.
- _____, make suitable officers for agricultural work (*Mitra*) 19,610-19,619.
- _____, problem of unemployment amongst, serious (*Burrows*) (471).
- _____, scheme for utilisation of *khas mahal* land for settlement of (*Burrows*) (471), 23,731-23,733, 23,747-23,756, 23,839-23,845.
- _____, alternative method of solving unemployment amongst, by diminishing supply, undesirable (*Burrows*) 23,860-23,869.

INDEX.

EDUCATION—*contd.*

- Middle-class youths, *see also* Cultivable uncultivated lands. under **AGRI-CULTURAL LABOUR.**
- Middle English school at Panchara, particulars of (*Roy*) 24,365, 24,366, 24,371-24,376, 24,380-24,384.
- Moga type schools, value of (*Oaten*) 23,624-23,627.
- Nature study, (*Finlow*) (3), 17,686, (*Mitra*) (128), (*Oaten*) (454), 23,449, 23,450, (*West*) (511), (*Ahmed U.*) (532).
- , instruction of teachers in (*Oaten*) 23,451, 23,452.
- Normal schools, numbers of (*Oaten*) 23,487-23,489, 23,491.
- Post-graduate study for Indian research workers, abroad, unsatisfactory; should be given at Pusa (*Hutchinson*) (296), 21,815, 21,818, 21,819, 21,875-21,880, 21,918, 21,919, 21,926, 21,927, 22,044-22,047.
- , at Pusa, period of and preliminary training for (*Hutchinson*) 21,909-21,917, 22,037-22,043.
- Poverty as a cause of illiteracy (*West*) (511, 512).
- Primary education, compulsory (*q.v.*).
- , concentration of, in fewer schools (*Oaten*) 23,568, 23,573, 23,574.
- , curricula of (*Oaten*) (452), 23,599, 23,600.
- , experiments in, needed in small areas to determine best system for (*West*) 23,959, 23,960.
- , financing of, out of profits of by co-operative societies scheme for (*Mitra*) (128), 19,404, 19,794-19,803.
- , need for adequate (*Oaten*) (452), 23,519, 23,520.
- , (*Ahmed U.*) 24,563.
- , further taxation for, impossible to bear (*Roy*) 24,563.
- , grants-in-aid for, *see* Grants-in-aid.
- , higher classes of, should be grouped in central schools (*West*) (511), *see also* Central schools.
- , need for extension of (*Roy*) 24,562.
- , objection of upper classes to (*Oaten*) 23,555.
- , pupils, figures showing numbers leaving before completing education (*Oaten*) (454).
- , less than 5 per cent. of, attain literacy (*Oaten*) 23,521-23,523, 23,616-23,618.
- , majority leave before reaching top classes (*West*) (510, 511), 24,153-24,155.
- , superfluous schools, method of closing (*West*) 24,145-24,147.
- , system of, unsatisfactory (*Mukherjee*) (171).
- , courses of unsatisfactory nature of (*West*) (510), 24,007, 24,008, 24,033-24,036.
- , lack of (*Oaten*) (452).
- , will never produce literacy (*West*) (511).
- , taken by only 20 per cent. of boys in rural areas (*Finlow*) 18,631.
- , teachers in, salaries of, too small without other sources of income (*West*) 23,976.
- , training of (*West*) 23,973, 23,974.
- , teaching of specific subjects at, hindered by smallness of schools and fact that pupils leave early (*West*) (510).
- Primary Education Bill, provision of funds under (*West*) 24,148-24,152.
- Reading, ability of students, very limited (*West*) (512), 24,142, 24,143.
- , method of teaching, in primary schools (*West*) (513), 23,981-23,984.

INDEX.

EDUCATION—*contd.*

- Reading, method of teaching, suggestions for improving (*West*) 23,981.
- Rural economics, degree in, should be given at Universities (*Oaten*) 23,492.
- _____, should be taught in normal schools (*West*) 24,076-24,078.
- _____, training in, not given to teachers (*Oaten*) 23,623.
- Rural schools, should be administered by local bodies (*Mitra*) (128), 19,788-19,790.
- _____, too much attention should not be paid to buildings for (*Mitra*) (128).
- Sanitary appliances in schools (*Bentley*) 21,194-21,200.
- School farms and plots (*Finlow*) (3, 4), 17,677-17,683, 18,634-18,637, (*Mitra*) (128), (*Momen*) (320), (*Mullick*) (349), (*Peddie*) (423), 23,285-23,287, (*Oaten*) (454), 23,448, 23,455, 23,456, (*Ahmed U.*) (532), (*Ahmed M.*) (560).
- Science courses at Indian Universities, high standard of (*Ray*) 22,940.
- _____, laboratory skill of students lacking owing to system of teaching (*Indian Tea Association*) (387), 22,961-22,972.
- _____, and owing to examination syllabus (*Indian Tea Association*) 23,136-23,139.
- _____, need for improving low standard of (*Indian Tea Association*) (387), 22,959-22,961.
- Secondary agricultural schools, experience of (*Finlow*) (3).
- _____, at Dacca (*q.v.*).
- Secondary school system, agricultural training in, as "practical arts" subject (*Oaten*) (454).
- _____, practical (*Oaten*) (453).
- _____, vocational (*Oaten*) (453), 23,458, 23,459.
- _____, examination standards for, have declined and should be raised (*Oaten*) 23,474-23,477.
- _____, has become inadequate (*Oaten*) (452, 453).
- _____, in rural areas, should be brought into relation with life of country (*Oaten*) (453).
- _____, suggestions for improving (*Oaten*) (453).
- _____, teachers, securing living wage for, the first essential (*Oaten*) (453).
- _____, training of (*Oaten*), 23,490.
- Teachers, better type of, would tend to keep children at school (*Oaten*) 23,610-23,614.
- _____, calibre of, at Guru training schools, low (*Oaten*) 23,453.
- _____, as cause of illiteracy (*West*) 24,053-24,058.
- _____, do not form part of village life (*Oaten*) 23,517, 23,518.
- _____, female, paid higher than male (*Oaten*) 23,635-23,637.
- _____, for agricultural bias schools, will take long time to train (*Oaten*) 23,457.
- _____, for central schools, *see* Central schools.
- _____, for primary schools, *see* Primary education.
- _____, for secondary schools, *see* Secondary school system.
- _____, in rural areas, drawing of, from agricultural classes (*Mukherjee*) (176), (*Momen*) (320), 22,413-22,416, (*Peddie*) (423), (*Oaten*) 23,602, 23,603, (*West*) 24,062, 24,063, (*Ahmed M.*) 24,638-24,642.
- _____, salaries of, poor (*Oaten*) 23,454, 23,514.
- _____, training of, in elementary hygiene (*Bentley*) 21,193.
- Textbooks, method of production and selection of (*West*) 23,985-23,993, 24,100, 24,101, 24,111-24,114.
- _____, on hygiene, satisfactory (*Bentley*) 21,189, 21,192, 21,199.
- Vernacular middle schools, giving place to English middle schools in Bengal (*Finlow*) 18,265-18,267.
- Vocational agricultural education, scheme for (*Finlow*) 18,638-18,643.

INDEX.

FERTILISERS.

- Adulteration of fertilisers (*Finlow*) (8), (*Mitra*) (131), (*Morgan*) (272), (*Hutchinson*) 22,004-22,008, (*Indian Tea Association*) (388), (*Ahmed U.*) (534).
- Agricultural Department and fertiliser industry, co-operation between, lacking in the past (*Hutchinson*) (300), 21,945-21,948.
- _____, liaison officers for (*Hutchinson*) (300).
- _____, need for (*Hutchinson*) (300), 21,901, 21,958.
- _____, suggestion for joint committee for (*Hutchinson*) 21,852.
- Ammonium sulphate, use of (*Mitra*) (131), (*Ahmed M.*) (558), 24,602-24,604.
- Artificial fertilisers, ability of, to remain in soil, an important consideration (*Hutchinson*) 21,850, 21,851.
- _____, high cost of, militates against use (*Jute Mills Association*) (415).
- _____, information on, supplied by fertiliser industry (*Roy*) 24,438, 24,439.
- _____, manufacture of, from Indian raw material (*Hutchinson*) 21,967-21,973, 22,021-22,023, 22,031-22,035.
- _____, not needed on land covered by silt (*Jute Mills Association*) (415), 23,202.
- _____, price of, should be reduced (*Ahmed M.*) (558).
- _____, propaganda for, by private firms (*Ahmed M.*) 24,627, 24,628, 24,645, 24,646.
- _____, scope for employment of (*Ahmed M.*) (558).
- _____, should be supplied on credit and price recovered after harvest (*Ahmed M.*) (558).
- _____, supplementary and not alternative to cattle manure (*Hutchinson*) 21,848.
- Bonemeal, export of, should be prohibited (*Mitra*) (131), 19,772, 19,773.
- _____, caste prejudice against, disappearing (*Roy*) 22,860.
- _____, high price of, due to export (*Mitra*) (131), 19,767-19,771.
- _____, value of (*Mitra*) (131).
- Bone phosphates (*Finlow*) (9).
- Bones, export of, should not be prohibited (*Hutchinson*) 21,970-21,973.
- _____, removal of grease from (*Finlow*) 17,893, 17,894.
- _____, use of raw (*Finlow*) 17,895-17,899.
- Commercial fertiliser firms, help given to (*Finlow*) 18,779-18,783.
- _____, see also under Agricultural Department.
- Committee to examine fertiliser situation, need for (*Hutchinson*) (301), 22,078.
- Co-operative distribution of fertilisers (*Mitra*) (131), 19,766-19,771.
- Co-operative manure stores, suggestion for (*Mukherjee*) (178).
- Cowdung as fuel, possibility of replacement of (*Finlow*) (9), (*Mitra*) (131), (*Morgan*) (272), (*Hutchinson*) (300), 22,001-22,003, (*Momen*) (325), (*Mullick*) (351), (*Indian Tea Association*) (388), (*Jute Mills Association*) (415), (*Ahmed M.*) (558), 24,643, (*Mukherjee*) (178), 20,253, 20,254, 20,577-20,580.
- Cultivators, conservatism of, an obstacle to their adoption of fertilisers (*Hutchinson*) (388).
- _____, in neighbourhood of tea gardens, are taking to fertilisers (*Hutchinson*) (388), 22,979, 22,980.
- _____, methods of encouraging, to use fertilisers (*Mukherjee*) (178).
- Demonstrations of fertilisers (*Indian Tea Association*) (388), (*Ahmed U.*) (534).
- Depots for fertilisers (*Hutchinson*) 22,086-22,089.
- District Boards and artificial fertilisers (*Hutchinson*) 22,090, 22,091.
- Economic return from fertilisers, information on, lack of (*Hutchinson*) (298), (300):
- _____, need for (*Hutchinson*) (298), 21,849.
- Expansion of use of depends on such information (*Hutchinson*) (300).
- Financial aid for fertiliser industry (*Hutchinson*) 21,902-21,908.

INDEX

FERTILISERS—*contd.*

- Fixation of nitrogen, best obtained by exposure of soil to air (*Hutchinson*) 22,012-22,014.
 _____, research on (*Hutchinson*) (299), 21,936.
 Green manuring (*Mullick*) (351).
 Improved crops, mean greater drain on soil, which must be made good by fertilisers (*Finlow*) (8), 18,297, 18,298.
 Increased use of fertilisers, examples of (*Finlow*) (9).
 _____, extra profit from (*Finlow*) (8).
 _____, vital for improvement of agriculture (*Finlow*) (8).
 Indo-Agri, Limited, policy of (*Hutchinson*) 21,953-21,961.
 Information as to proper use of fertilisers, need for reliable (*Hutchinson*) (300), 22,055-22,060.
 Jute land, does not require fertilising when covered by silt (*Morgan*) 21,479, 21,480, 21,649-21,654.
 _____, more than half of, is covered by silt (*Morgan*) 21,649.
 Manurial experiments (*Finlow*) 18,245-18,248.
 Nitrate of soda, liable to be washed out of soil (*Hutchinson*) 22,080-22,084, (*Indian Tea Association*) 23,155.
 Nitrogen, investigation of problems regarding (*Hutchinson*) 21,857, 21,858, 21,939, 21,940, 22,070, 22,071, *see also* Fixation of nitrogen.
 _____, the limiting factor on silt soil (*Finlow*) 17,873, 17,879.
 Organic manures, need for increased use of (*Mullick*) (351).
 Popularising of fertilisers, easy if credit facilities available (*Finlow*) (9).
 Potassium nitrate, too expensive to use on tea estates (*Indian Tea Association*) 23,159-23,161.
 Railway facilities for fertilisers (*Hutchinson*) 21,962-21,965, 22,029, 22,030.
 Research on fertilisers, causes of inadequate (*Hutchinson*) (297), 21,834-21,841.
 _____, may be conducted at central institute and in Provinces (*Hutchinson*) 21,842-21,844.
 _____, suggestions for (*Hutchinson*) (297, 298).
 Rock phosphates, not so valuable as bone phosphates (*Finlow*) (9), 18,557-18,559.
 Silt from rivers, injurious as fertiliser (*Indian Tea Association*) 23,183, 23,184.
 _____, use of artificial fertilisers unnecessary when present (*Jute Mills Association*) (415), 23,202.
 Superphosphates, manufacture of, in India (*Hutchinson*) 21,967-21,973, 22,021-22,023, (*Ray*) 22,752-22,757.
 _____, not useful for acid soils or those containing no calcium carbonate (*Finlow*) (9).
 Tea, fertilisers used for (*Indian Tea Association*) 23,120, 23,121, 23,125, 23,187-23,189.
 Tea and rubber plantations, the chief users of artificial fertilisers (*Hutchinson*) 21,941-21,944, 22,077.
 Water hyacinth, use of, as manure (*Finlow*) 18,185, (*Burrows*) 23,825.

FINANCE.

- Agricultural and Industrial Banks, need for establishing (*Mukherjee*) 20,486-20,499.
 Agricultural and Sanitary Improvements Act, complexity of, hinders use (*Finlow*) (5), 17,804, 17,805, (*Mukherjee*) (177), 20,283-20,288, (*Momen*) (325), (*Burrows*) (472, 473).
 _____, extension of (*Finlow*) (5), (*Ahmed U*) (534).
 _____, engineers employed for works under (*Burrows*) 23,904-23,908.

INDEX.

FINANCE—contd.

- Agricultural and Sanitary Improvements Act, suggestions for improving (Burrows) (473), 23,903.
 _____, value of, for construction of minor irrigation works (Das) 18,879, 19,069-19,079.
- Agriculturists Loans Act, grants under, should be made to subserve propaganda programme of Agricultural Department (Peddie) (425), 23,419-23,423, 23,431-23,433.
 _____, invoked only in time of distress (Finlow) 17,804, (Burrows) 23,777-23,779.
 _____, loss of money lent under, small (Burrows) 23,780.
 _____, practically a dead letter (Peddie) (425).
 _____, provision of joint security demanded by, not difficult (Burrows) 23,893-23,895.
- Bengal Tenancy Act, difficulties caused by (Mitra) 19,515-19,517, (Mukherjee) (177).
- Co-operative movement, the best means of financing cultivators (Finlow) (5), (Ahmed H) (169), (Morgan) (272), (Momen) (322), (Jute Mills Association) (415), (Ahmed M) (558).
- District land improvement fund, need for (Momen) (322).
- Finance for jute cultivators, need for provision of easy (Morgan) 21,799-21,801.
- Land Improvements Act, could be used to greater extent (Burrows) 23,782, 23,783, 23,818.
 _____, difficulty of taking loans under (Momen) 22,239-22,241.
 _____, invoked only in time of distress (Finlow) 17,804.
 _____, lack of use of, due to want of enterprise of owners (Burrows) 23,784, 23,785.
 _____, period allowed for repayment of loans under (Burrows) 23,896-23,898.
- Land mortgage banks, at Naogaon, work of (Mitra) 19,507-19,514.
 _____, co-operative, need for (Mitra) (129), (Morgan) (272).
 _____, difficulties caused to, by Bengal Tenancy Act (Mukherjee) (177), (Mitra) 19,515-19,517.
 _____, should be established with liberal financial help from Government (Mukherjee) (177).
- Long-term credit, should be given by land mortgage banks (Mitra) (129), (Mukherjee) (177).
 _____, should be given on easy terms for purchase of land and cattle, and building (Ahmed U) (533).
- Short-term credit, should be provided by co-operative societies (Mitra) (129), (Mukherjee) (177).
 _____, should be provided on easy terms for seed, fodder and wages (Ahmed U) (533).
- Taccavi, abuses in distribution of (Morgan) 21,475-21,477.
 _____, Acts under which it is available (Finlow) 17,804-17,817.
 _____, amount available of, insignificant compared with vastness of country (Mullick) (350), 22,452, 22,453.
 _____, conditions under which it might be given (Momen) (323), 22,264-22,266.
 _____, inelastic and unpopular (Finlow) (9), (Ahmed H) (169), (Momen) (323).
 _____, joint liability system for, should be abolished (Momen) (323), (Ahmed H) (533).
 _____, might be used as preliminary to formation of co-operative societies (Finlow) (9).
 _____, might be used to greater extent (Peddie) (425).
 _____, need for strict supervision of repayment of (Ahmed U) (533).
 _____, no need for fuller use of (Mitra) (129), 19,521-19,523.
 _____, only given in years of scarcity (Mitra) (129).

INDEX.

FINLAYSON, Mr. J. T., *see* INDIAN JUTE MILLS ASSOCIATION.

FINLOW, Mr. R. S., Director of Agriculture, and McLEAN, Mr. K.,
Assistant Director of Agriculture (1-15, 81), 17,511-18,814.

ADMINISTRATION :

Acreeage cess, for agricultural improvement, 17,599, 18,583.

_____, for education, 18,620-18,622.

_____, for rural reconstruction generally, 18,625-18,630.

_____, on jute, *see* Jute.

Agricultural Department, budget of, before and after retrenchment,
18,378-18,380, 18,436-18,444, 18,777.

_____, retrenchment of, *see* Retrenchment.

_____, staff of, organisation of, 17,519-17,560.

_____, _____, proposals for increasing, 18,158,
18,598-18,600.

Annual meeting of Directors of Agriculture, desirable, 18,616.

Board of Agriculture, Bengal, 17,839-17,842.

Central Department of Agriculture, effect of strong, in U.S.A., has been
to stimulate State Departments, 18,809-18,812.

Central Government, role of, in research, 17,604-17,608, 18,613-18,619.

Central organisation for research, desirability of, 17,606.

_____, might initiate research, but would
principally deal with schemes put
up by Provinces, 17,608.

_____, must command support of Provinces,
17,609-17,611.

_____, must not have executive authority,
17,612.

_____, Provinces should be represented on,
17,607.

Co-operation between Provinces in research, 18,616.

Co-ordination of Provincial research, need for closer, 17,614-17,618.

Demonstrators, *see under* DEMONSTRATION AND PROPAGANDA.

Department of Fisheries, abolished through retrenchment (12), 18,374,
18,375.

_____, is to be revived, 18,384.

Departments allied to Agriculture, co-operation between, 18,644-18,653.

_____, *see also* Development Commis-
sioners.

Deputy Directors of Agriculture, duties of, 17,524-17,526, 18,170-18,172,
18,209-18,213, 18,284, 18,285.

_____, need for further, 18,214.

Development Commissioners, provincial, to secure co-operation between
departments allied to Agriculture, 18,648-18,653, 18,793, 18,794,
18,804, 18,805.

District agricultural officers, pay and prospects of, 17,540-17,545, 18,543.

_____, present and proposed numbers of, 18,537.

_____, possibility of recruiting, from ranks of
demonstrators, 18,544-18,551.

_____, qualifications of, 17,534-17,539.

_____, training of (3), 17,659.

District Boards, help given by, to agriculture, 18,604-18,612.

_____, may allot money for agricultural improvements,
18,088-18,091.

District farms, *see* Farms.

Farms (Government) are worked on economic basis, 18,283, 18,286-18,290.

_____, combine experiments with demonstration, 18,282.

_____, need for one in each district, 18,575, 18,576.

_____, proposal for central, near Calcutta, 18,410-18,413,
18,704-18,719.

Jute, extra cess on, to aid Agricultural Department, 18,390-18,392.

_____, present cess on, goes to Government of India, 18,584.

_____, _____, scope for enhancement of, 18,797-18,799

INDEX.

FINLOW, Mr. R. S. and McLEAN, Mr. K.—*contd.*

ADMINISTRATION—*contd.*

- Jute, present cess on, should be used for agricultural improvement
18,622, 18,623.
- Meteorological Department, work of, 17,787-17,789.
- Organisation of provincial research, *see under* RESEARCH.
- research by crops, *see under* RESEARCH.
- research in Bengal, *see under* RESEARCH.
- Personal Assistant to Director of Agriculture, status and work of,
17,770, 17,771, 17,776.
- Provinces, role of, in research, 17,612, 18,613-18,619.
- Pusa, examples of help given by, to Bengal, 18,220, 18,221.
- , high standard of research work at, 17,582-17,585.
- Railways, making representations to, 17,772-17,773.
- Recording of results of experiments and administrative experience,
machinery for, capable of improvement, 17,752-17,759.
- Retrenchment of Agricultural Department, 50 per cent., 18,145-18,151.
- , does not prevent submission of new schemes,
18,152-18,159.
- , due to financial reasons
only, 18,199-18,201.
- , effect of, on budget, *see under* Agricultural
Department.
- Revenue officers, interest taken by, in agriculture, 18,667-18,669.
- , should be instructed to pay special attention to agri-
culture, 18,655-18,666, 18,670.
- , value of interest of, in agriculture, 18,654-18,657.
- Roads, condition of, in Western Bengal, 17,781, 17,782, 18,414, 18,415
- , under local authorities, have deteriorated, 17,783, 17,784.
- Routine administrative work, dealt with by Personal Assistant to
Director of Agriculture, 17,760-
17,769.
- , is increasing, 17,769.
- Waterways, take the place of roads in Eastern Bengal, 17,780.

AGRICULTURAL INDEBTEDNESS :

- Causes of borrowing (5).
- Causes preventing repayment (5).
- Cultivators, comparative incompetence of, a cause of indebtedness (5),
17,818, 17,819.
- , cultivating jute, are better off than others (5), 18,490-18,494.
- , income of, per acre (5), 18,366-18,373.
- , income of, per acre, 18,357-18,359.
- , present economic position of, 18,671-18,677.
- , proportion of, in debt (5), 17,820-17,822.
- Inquiry into indebtedness of cultivators, desirable, 17,797-17,801.
- Jute and rice, effect of high prices of, on prosperity of cultivators,
(5, 6).
- Jute, note on the average price of, and on the profits of its
cultivation (5).

AGRICULTURAL INDUSTRIES :

- Committees on lines of Indian Central Cotton Committee, might foster
subsidiary industries (12).
- Co-operative and Industries Departments, should organise societies for
cotton-ginning, rice-husk-
ing, &c. (12).
- , should study market facilities
for subsidiary industries
(12).
- Cultivators, number of days worked by, no indication of their ability to
adopt subsidiary occupations (12).
- , should be occupied all year round in intensive agriculture
(12).

INDEX.

FINLOW, Mr. R. S. and McLEAN, Mr. K.—*contd.*

AGRICULTURAL INDUSTRIES—*contd.*

- Cultivators, can be so occupied in irrigated tracts (12).
 _____, usually have some subsidiary occupation (12).
 Fruit-growing (12), 18,002, 18,003.
 Hydro-electric development 18,004-18,006, 18,008.
 Industries in rural areas, effect of 18,007-18,018.
 Lac culture (12), 17,992-17,996.
 Marketing, importance of facilities for, for subsidiary industries (12).
 _____, provision of better facilities for, should be taken up by Co-operative and Industries Departments (12).
 Part-time occupations, are under Industries Department 17,990.
 _____, distinct from subsidiary industries 17,981, 17,982.
 _____, suggestions for 17,990-17,992.
 _____, value of, in areas where one paddy crop only is grown annually, 17,982-17,989.
 Pisciculture 18,133-18,135, 18,374-18,377, 18,384.
 Sericulture (12).
 Tree cotton growing (12).

AGRICULTURAL LABOUR:

- Importation of labour into Bengal, considerable (12).
 Migration of labour from Bengal (13), 18,014-18,019, 18,360-18,365.
 Shortage of labour, intermittent (13).
 _____, largely depends on size of jute crop (13).
 Unemployment amongst *bhadralog* and Anglo-Indian classes (12).
 _____, proposal for meeting, by establishing larger farms (12, 13).
 _____, report of committee of investigation (12), 18,370.
 _____, scope for settlement, in Assam (13).
 Waste lands in Bengal, area of 18,347-18,352, 18,419-18,423, 18,428.
 _____, difficulties of cultivating 18,424-18,431.
 _____, inhospitable (13), 18,108-18,110, 18,354-18,356.
 _____, unsuitable for giving to agricultural graduates 18,111.

ANIMAL HUSBANDRY:

- Bullocks, smallness of, an obstacle to use of improved implements (10).
 _____, thought by cultivators to be too small for improved implements (11), 18,788, 18,789.
 Bulls, arrangements for providing 17,938, 17,939.
 _____, demand for, comes chiefly from co-operative societies 17,954.
 _____, increasing (11).
 _____, distribution of, to District Boards 18,698-18,700.
 Cattle-breeding, not practised in Bengal (11), 17,930-17,932.
 _____, *see also* Improvement of breeds.
 Cattle farms 18,692-18,697, *see also* Ranghpur farm.
 Cattle in Bengal, mostly underfed 17,955-17,958.
 Common pastures, grazing on, of poor quality (11).
 _____, overcrowded (11).
 Crossbreds, are more liable to disease 18,472-18,474.
 _____, valuable only for milk production 17,934-17,936.
 Dairying, training in (11).
 Disease, causes great loss to cultivators 18,807, 18,808.
 Dual purpose breed, evolution of, the aim 17,933.
 Fodder, period of scarcity of (11).
 _____, preservation of, need for research on 17,971, 17,972.
 Fodder crops, (9-11).
 _____, might be encouraged by remission of land revenue 17,975-17,978.
 _____, must be substituted for grazing (11).
 _____, not grown in Bengal at present 18,124-18,126.
 _____, with irrigation can be grown between two ordinary crops (11), 17,959, 17,960.

INDEX.

FINLOW, Mr. R. S. and McLEAN, Mr. K.—*contd.*

ANIMAL HUSBANDRY—*contd.*

- Fodder famines, not common in Bengal 18,026.
Improvement of breeds, by crossing (11).
_____, by selection (11).
_____, one of the most important agricultural problems in Bengal 17,962.
_____, special officer for, about to be appointed 17,963, 17,964.
Irrigation, importance of, for improvement of breeds 17,961.
Milk, adulterated, deliberately bought in Calcutta 17,942-17,953.
_____, demand for good quality 17,937.
_____, legislation for purity, none exists outside Calcutta 17,940.
_____, valuable but difficult to administer 17,941.
_____, enforcement of, in Calcutta 17,942-17,944.
_____, supply of, in Calcutta 17,942-17,953.
Mustard cake, the giving of, to cattle 18,127-18,129.
Ranghpur cattle farm, distribution of half-bred bulls from 18,466-18,475.
_____, is under Agricultural Department 18,464, 18,465.
_____, work at (11).
Sheep and goats, need for further study of breeding of 17,973, 17,974.
Silage 17,965-17,970.
Waste areas, must be utilised for growing fodder crops (11).

ATTRACTING CAPITAL :

- Factors discouraging landlords and tenants from introducing improvements (14), 18,122, 18,123.
Landowners in Bengal, generally apathetic with regard to agriculture (12), 17,979, 17,980.
Large farms, establishment of, would displace peasant proprietors and be unsound (14).
_____, income from, would be less than that from small holdings (14), 18,299-18,309, 18,553.

CO-OPERATION :

- Bonemeal, co-operative factories for 17,890-17,892.
Co-operative movement, the best means of financing cultivators (5).
_____, use of, for agricultural propaganda 17,741-17,743.
_____, use of, for seed distribution 17,739, 17,740.
Jute-buying organisation, co-operative (14), 18,061-18,068.
Marketing, co-operative, scope for 18,037-18,039.
Taccavi, might be used as preliminary to formation of co-operative societies (9).

CROPS AND CROP PROTECTION :

- Crop protection Act, sufficient protection against external infection (10).
Food crops, occupy 84 per cent. of land 17,903.
_____, replacement of, by money crops, not large 17,900-17,904.
Import and export of food crops 18,488-18,490, 18,499-18,510.
Improved crops, mean greater drain on soil, which must be made good by fertilisers (8), 18,297, 18,298.
Indian hemp, dust in 18,077, 18,080.
_____, retting water a cause of dust 18,078.
Japanese millet, advantages of (9, 10).
Jute, area under 18,340.
_____, average quality of, has probably deteriorated (14).
_____, cess on (*see under ADMINISTRATION*).
_____, cultivators of, are better off than others 18,490-18,494.
_____, effect of high prices on (5, 6).
_____, increased income possible by adoption of improved, 5 crores 18,385-18,389.
_____, research on (2), 18,221-18,227.
_____, seed for improved, distribution of (*see Seed distribution*).

INDEX.

FINLOW, Mr. R. S. and McLEAN, Mr. K.—*contd.*

CROPS AND CROP PROTECTION—*contd.*

Jute, seed for improved, is at a premium compared with ordinary seed (14), 18,315-18,319.

_____, price of 18,580.

New crops, varieties of, introduced (9).

Paddy, area under 18,337-18,341, 18,720.

_____, attempt to replace, in highlands, by heavier-yielding food crops (10).

_____, cultivators of, effect of high prices on (6).

_____, increased income possible by adoption of improved, 3 crores 18,385.

_____, low yield of, may be due to insufficient cultivation 18,478-18,487.

_____, research on, 18,101, 18,228-18,234, 18,238-18,244, 18,403, 18,404, 18,445-18,448.

_____, lack of co-operation with Coimbatore in 18,238-18,244, 18,453-18,459.

_____, lack of co-operation with Bombay in 18,452, 18,453.

_____, need for co-ordination of, between Provinces 18,528.

_____, objects of 18,103-18,107.

_____, should be done locally rather than at Pusa 18,095.

_____, seed for, distribution of (*see* Seed distribution).

_____, single seedling method with 17,906-17,911.

_____, straw of, used as fodder and not available for paper-making 18,345, 18,346.

Potato cultivation (9), 17,905, 18,329-18,334.

Pulses, organisation of research on 18,756-18,762.

Pure line cultures of staple crops, much work done on (9).

Reporting of pests, if prompt, might enable precautions to be taken (10).

Retting, experiments on 18,236, 18,237.

Revenue-producing crops (sugarcane, tobacco, &c.), scope for increase in (10).

Rice, *see* Paddy.

Seed distribution, of improved varieties, commercialisation of 17,729.

_____, co-operative 17,739, 17,740.

_____, danger of adulteration 17,732.

_____, of jute, through private seedsman 17,726-17,728, 17,733-17,738, 18,315-18,319, 18,268.

_____, of paddy 18,101, 18,102, 18,268.

_____, possibility of, by Government, limited 17,730.

_____, of bazaar seeds, is in hands of moneylenders 17,731.

Seed, method of obtaining improved, for distribution 18,268-18,276.

_____, policy of distributing small packets of improved, free, success of 18,772.

Seed farms 18,689-18,691.

Seed testing 18,272, 18,274, 18,277, 18,278.

Sugarcane, adoption of Coimbatore varieties 18,137-18,144, 18,460-18,463.

Tobacco cultivation, spreading (9), 18,519, 18,520.

Water hyacinth, destruction of 18,180-18,182.

_____, first appeared 15 years ago 18,560.

_____, need for concerted action against 18,183, 18,184.

_____, valuable as manure 18,185.

_____, very great damage done by 18,186-18,189.

Wheat, difficulty of extending area of 18,495-18,498.

Wild animals, do not do serious damage in Bengal (10).

Wild pigs, suggested rewards for destruction of (10).

INDEX.

INLOW, Mr. R. S. and McLEAN, Mr. K.—*contd.*

CULTIVATION :

- Calcutta, effect of, on cultivation of the hinterland 18,320-18,328.
Dry cultivation, methods of tillage 17,634-17,639.
_____, need for assisting 17,630-17,633.
_____, research to assist 17,620-17,627, 17,640.
Intensive cultivation of small holdings, the ideal to aim at (14).
Jhuming, is causing anxiety in Chittagong hill tracts (13), 18,028-18,032.
Rotations, introduction of good, will be easier when irrigation problem is solved (10).
_____, of paddy and jute 18,338, 18,339.
Tractors, might be of use for highland cultivation and in low bhil land (10).

DEMONSTRATION AND PROPAGANDA :

- Co-operative societies, use of, for propaganda 17,741-17,743.
Cinemas, use of, for propaganda 17,744-17,751.
Cultivators, cannot afford to be other than conservative (6).
Demonstrations, on cultivators' holdings, are conducted with guarantee against loss 17,724, 17,725.
_____, demand large staff 18,768-18,772.
_____, the most effective method 17,720-17,723..
_____, on Government farms 18,282, 18,283.
Demonstrators, methods of 18,279-18,281.
_____, pay of 18,542.
_____, possibility of increasing pay of, so that district officers might be selected from them 18,544-18,551.
_____, present and proposed numbers of 18,533-18,536.
_____, quality of, not altogether satisfactory 18,538, 18,539.
_____, training of, in commercial farming 17,556-17,560.
_____, insufficient 17,546-17,555.
District agricultural officers, propaganda by 18,401, 18,402.
District farms, facilities for demonstrations at 18,400, 18,401.
Farms (Government), experimental and demonstration, numbers of 17,574-17,577.
_____, influence of, on cultivation in neighbourhood 18,773-18,776.
School farms, their use for demonstration purposes 18,634-18,637.
Seed, policy of free distribution of small packets of improved, successful 18,772.
Village farms for demonstration purposes, value of 18,634-18,637.

EDUCATION :

- Agricultural bias in middle schools, system to be adopted for 18,263-18,265.
Agricultural bias schools, forthcoming introduction of (3).
_____, value of 17,698-17,699.
Agricultural college, at Sabour, history and defects of (2, 3).
_____, failure of 18,254.
_____, need for 18,160-18,165.
Agricultural education, lack of demand for (3).
_____, sought only as leading to Government posts (3).
Agricultural graduates, might cultivate waste land in Assam 18,111, 18,112.
_____, waste land in Bengal, unsuitable for 18,111.
_____, need further practical training (4).
Dacca Agricultural Institute, course to be given at (3), 18,249, 18,256-18,260.
_____, entrance standard for 18,250-18,253.
_____, is in effect an agricultural college 17,704-17,707.

INDEX

FINLOW, Mr. R. S. and McLEAN, Mr. K.—*contd.*

EDUCATION—*contd.*

- Dacca Agricultural Institute, linked to Dacca University 17,709-17,719.
 _____, practical and theoretical training at, will be kept distinct 18,259.
 _____, scheme for, held up for lack of funds 17,660, 17,661.
 _____, will not be confined to training officers for Department 18,167.
 _____, but training of such officers will be its principal work 18,169.
 Dacca agricultural school, after-career of pupils at (4), 17,700-17,702.
 _____, conditions of entry to (4).
 _____, has only half complement of students (3).
 _____, is controlled by Agricultural Department 18,784-18,786.
 _____, pupils at, about half come from agricultural classes 17,662-17,666.
 _____, syllabus of 17,667, 17,668.
 _____, teaching at, is in the vernacular 17,669-17,676.
 _____, utilised for refresher courses for demonstrators (3).
 District agricultural officers, training of (3), 17,659.
 District farms, courses for cultivators at (4), 17,703.
 Financing of education, by means of acreage cess 18,620-18,622.
 Honours graduates of Bengal Universities, promising in research work 17,646-17,651, 18,164, 18,165.
 Indian research workers, training of, in India 17,646-17,652.
 _____, in Europe, after post-graduate course in India 17,654-17,658.
 _____, work of 17,653.
 Literacy, once attained is rarely lost 17,691.
 _____, only attained by small proportion of those attending primary schools 17,687.
 _____, possibility of increasing 17,690.
 _____, the first aim of primary education 17,684, 17,685.
 _____, very important from agricultural angle 17,687-17,689.
 Middle-class youths, may take to agriculture from economic considerations if it is taught in ordinary education (4), 17,693-17,696.
 Nature study (3), 17,686.
 Primary schools, attended by only 20 per cent. of boys in rural areas 18,631.
 _____, *see also* Literacy.
 School farms, (3, 4).
 _____, management of 17,677-17,683.
 _____, use of, for demonstration purposes 18,634-18,637.
 Secondary agricultural schools, experience of (3).
 _____, at Dacca (*q.v.*).
 Vernacular middle schools, giving place to English middle schools in Bengal 18,265-18,267.
 Vocational agricultural education, scheme for 18,638-18,643.

FERTILISERS :

- Adulteration of fertilisers, common (8).
 _____, co-operative supply as remedy (8).
 _____, legislation to prevent (8).
 Bonemeal, co-operative factories for 17,890-17,892.
 _____, effect of export tax on 17,883-17,889.
 _____, price of 17,882.
 Bone phosphates, value of, recognised (9).
 Bones, removal of grease from 17,893, 17,894.
 _____, use of raw 17,895-17,899.
 Commercial fertiliser firms, help given to 18,779-18,783.
 Cowdung, must continue to be used as fuel (9).

INDEX.

FINLOW, Mr. R. S. and McLEAN, Mr. K.—*contd.*

FERTILISERS—*contd.*

- Improved crops, mean greater drain on soil, which must be made good by fertilisers (8), 18,297, 18,298.
Increased use of fertilisers, examples of (9).
_____, extra profit from (8).
_____, vital for improvement of agriculture (8).
Manurial experiments 18,245-18,248.
Nitrates, results with (9).
Nitrogen, the limiting factor on silt soil 17,878, 17,879.
Popularising of fertilisers, easy if credit facilities available (9).
Red soils, limiting factors on 17,879.
_____, very deficient in phosphates 17,881.
Rock phosphates, not so valuable as bone phosphates (9), 18,557-18,559.
Silt soils, limiting factors on 17,879.
Superphosphates, not useful for acid soils or those containing no calcium carbonate (9).
Water hyacinth, valuable as manure 18,185.

FINANCE :

- Agricultural and Sanitary Improvements Act, contemplated extension of (5).
_____, difficult to work 17,804, 17,805.
_____, effect of (5).
Agricultural Loans Act, invoked only in time of distress 17,804.
Co-operative movement, the best means of financing cultivators (5).
Credit, difficulty of controlling (6).
_____, for productive measures, should be made available on easy terms (6).
Interest, excessive, should be prohibited (6).
Land Improvements Act, invoked only in time of distress 17,804.
Taccavi, Acts under which it is available 17,804-17,817.
_____, might be used as preliminary to formation of co-operative societies (9).
_____, unpopular in Bengal (9).

FORESTS :

- Deterioration of forests, has led to soil erosion (8, 13).
_____, terracing as a remedy (8, 13).
Forest Department, is in close touch with Agricultural Department 18,020, 18,021.
Forests, chiefly confined to the hills in Bengal (13).
_____, in Western Bengal, mainly zemindari 18,022, 18,023.
_____, problem of grazing in, does not arise (13).
Jhuming, is causing anxiety in Chittagong hill tracts (13), 18,028-18,032.

HOLDINGS :

- Consolidation, impossible owing to system of tenure (6), 18,291-18,296, 18,586, 18,587.
Holdings, size of, in Bengal 17,828-17,832, 18,405-18,409.
Intensive cultivation of small holdings, the ideal aimed at (14).
Large farms, establishment of, would displace peasant proprietors and be unsound (14).
_____, income from, would be less than that from small holdings (14), 18,299-18,309, 18,553.

IMPLEMENTS :

- Bar point, should be fitted to all general purpose ploughs (11).
Bullocks, smallness of, an obstacle to use of improved implements (10).
Cultivators, believe their animals not strong enough to draw improved implements (11), 18,788, 18,789.
Hire-purchase system for implements, might be adopted by commercial firms (5), 17,921-17,923.

INDEX.

FINLOW, Mr. R. S. and McLEAN, Mr. K.—*contd.*

IMPLEMENTS—*contd.*

- Hiring out of expensive implements, desirable (5).
 Implement manufacturers, are ignorant of Indian conditions (11).
 _____, Indian, two in Calcutta 17,916-17,919.
 _____, sell by direct sales 17,920.
 _____, might adopt hire-purchase system 17,921-17,923.
 _____, should have practical representative in India (11).
 Improved implements, high cost of, prevents adoption on large scale (11), 17,912-17,918.
 Improved plough, which will be light, strong and cheap, scope for (11).
 Indian plough, attempts to improve, by fitting up-to-date body, unsatisfactory (10).
 Iron ploughs, use of, adds to fertility of soil (10).
 Sugarcane mills, popularity of hiring, owing to special terms given by manufacturers (4).
 Tractors, might be used for highland cultivation and in low *bhil* land (10).
 _____, will be a cause of loss unless facilities provided for repair (10).

IRRIGATION :

- Agricultural Department, responsible for well irrigation 17,580.
 Agricultural Engineer, appointment of, to deal with wells and tube wells (7), 17,863.
 Area irrigated in Bengal 18,476.
 Canal irrigation, lack of (6).
 Deterioration of rivers, effect of (7).
 Irrigation, held up for lack of funds 18,113-18,119, 18,678-18,681.
 _____, importance of, for ensuring fodder supply (1).
 _____, for improvement of cattle 17,961.
 _____, the only key to hot weather cultivation (1).
 Irrigation Department, co-operation of, with Agricultural Department 18,120, 18,121.
 _____, responsible for works involving flow irrigation 17,580.
 Lift irrigation, possibilities of 18,511-18,513.
 Minimum area requiring protection 18,729-18,743.
 Minor irrigation works, are constructed by co-operative agency 17,845.
 _____, have been held up by lack of funds 18,113-18,119.
 _____, irrigation officers to advise on 17,846, 17,847.
 _____, need for small commission to investigate possibilities of (7).
 _____, provisions of Act 6 of 1920 concerning 18,682-18,688.
 _____, repair and construction of, now being undertaken (6).
 _____, scope for (6), 17,848.
 _____, standing commission to investigate, desirable 17,864-17,866.
 Paddy, water required for 18,721-18,724.
 Productive irrigation schemes, none in Bengal 17,843, 17,844.
 Rainfall, area affected by uncertainty of 18,725-18,736.
 Tanks, usually in need of repair (6), 18,588.
 Tube wells, not used for irrigation 17,856.
 Waterlogging 17,857-17,861.
 Well irrigation, by ordinary wells, can be constructed locally 17,853-17,855.
 _____, capable of development 17,849, 17,850.
 _____, funds for 17,851, 17,852.

INDEX.

FINLOW, Mr. R. S. and McLEAN, Mr. K.—*contd.*

MARKETING :

- Commission agents, registration of 18,040-18,049.
 Co-operative jute buying organisation (14), 18,061-18,068.
 Co-operative marketing, scope for 18,037-18,039.
 Crop forecasts (14, 15).
 Cultivators, are keenly interested in jute prices 18,082.
 _____, essential to secure them fair share of value of their produce
 18,052, 18,053.
 _____, should be given fuller information as to crops and prices
 18,071-18,076.
 Inquiry into channels of marketing, value of 18,050, 18,051, 18,069,
 18,070.
 Jute forecasts, methods of compiling (15).
 _____, more accurate than forecasts of other crops (14, 15).
 Jute, India's position in regard to, secure in immediate future 18,073-
 18,075, 18,083-18,085, 18,813.
 _____, methods of marketing (13, 14), 18,036-18,044.
 _____, need for watching world demand and affording information to
 cultivators 18,076, 18,081, 18,082.
 _____, note on average price of, and on the profits of its cultivation (81).
 Middlemen, to some extent prevented in case of export crop like
 jute from extravagant exactions by
 buyers from large concerns touring
 countryside 18,036.
 _____, profits taken by (13).
 _____, methods of 18,036-18,049.
 _____, room for eliminating (13).
 Weights and measures, should be standardised 18,055-18,060.

RESEARCH :

- Central Government, role of, in research 17,604-17,608, 18,613-18,619.
 Central organisation for research, desirability of 17,606.
 _____, might initiate research but would
 principally deal with provincial
 schemes 17,608.
 _____, must command provincial support
 17,609-17,611.
 _____, must not have executive authority
 over provincial 17,612.
 _____, provincial representation on, essen-
 tial 17,607.
 Co-operation between Provinces in research 18,616.
 Co-ordination of provincial research, need for closer 17,614-17,618.
 Dry cultivation, research to assist 17,620-17,627, 17,640.
 Farms, experimental, numbers of 17,574-17,577.
 Honours graduates of Bengal Universities, promising in research work
 17,646-17,651, 18,164, 18,165.
 Indian research workers, training of, in India 17,646-17,652.
 _____, in Europe, after post-graduate
 course in India 17,654-17,658.
 _____, work of 17,653.
 Jute, research on (2), 18,221, 18,227.
 Manurial experiments 18,245-18,248.
 Organisation of provincial research by crops 18,173.
 Organisation of research by crops, on lines of Indian Central Cotton
 Committee: financing of 17,595-17,603.
 Organisation of research by crops, on lines of Indian Central Cotton
 Committee: might be applied to jute pulses, oilseeds, tobacco and
 paddy 17,590-17,593, 18,527.
 Organisation of research by crops, on lines of Indian Central Cotton
 Committee: value of (2), 17,588, 17,589.
 Organisation of research in Bengal 17,561-17,577, 18,174-18,179, 18,190-
 18,198, 18,393-18,399.
 Paddy, research on (*see under CROPS*).
 Provinces, complete control of provincial research by possible disad-
 vantages of, but must be retained (2), 17,612, 18,206-18,208.

INDEX.

FINLOW, Mr. R. S. and McLEAN, Mr. K.—*contd.*

RESEARCH—*contd.*

- Provinces, role of, in research 18,613-18,619.
 Pulses, organisation of research on 18,756-18,762.
 Pusa, examples of help given by, to Bengal 18,220, 18,221.
 —, high standard of research work at 17,582-17,585.
 Recording results of experiments, machinery for, capable of improvement 17,752-17,759.
 Research, necessary not only on crops but on the same crop in different districts 18,529-18,531.
 Research staff, Indian (*q.v.*).
 —, particulars of 17,564-17,569.
 Retting, experiments on 18,236, 18,237.

SOILS :

- Deltaic land in Lower Bengal, problems caused by (7, 8), 17,873.
 —, suggestions for improving (7), 17,874-17,877.
 Deterioration, of forests, has led to soil erosion (8, 13).
 —, of land in Bengal, partly due to keeping rivers confined to present channels (7).
 —, of rivers, effect of (7).
 Iron ploughs, use of, adds to fertility of soil (10).
 Silt-bearing water, control of 17,874-17,877.
 Silt and red soils, qualities of 17,879-17,881.
 Soil erosion (8, 13).
 Soil surveys 17,867-17,872, 18,554, 18,555.
 Waterlogging 17,857-17,861.

STATISTICS :

- Agricultural statistics in Bengal, discrepancies between 18,562-18,574, 18,747-18,749.
 Agricultural surveys 18,202.
 Crop forecasts, *see under* MARKETING.
 Interprovincial rail-borne trade, value of statistics regarding 18,092-18,094.

TARIFFS :

- Cess on exported agricultural produce 17,595-17,603.

VETERINARY :

- Veterinary Department, in Bengal, is independent of Agricultural Department 17,926-17,928.
 —, must work in close collaboration with Agricultural Department (11).
 —, should be independent of Agricultural Department (11).

WELFARE :

- Board of Economic Inquiry, would be valuable in Bengal (14), 18,310, 18,311.
 Economic surveys of villages, (14).
 —, money spent on would be better used for agricultural improvement 18,674, 18,675.
 —, value of 18,750-18,755.
 Medical attention, need for increased (14).
 Sanitation, need for improved (14).
 Water supply, importance of pure (14).
 —, pure, may be secured by tube wells (14).

FODDER, *see under* ANIMAL HUSBANDRY.

FORESTS.*

- Afforestation, to prevent damage from floods (*Das*) (82).
 —, to prevent soil erosion (*Mitra*) (131).
 —, might be dangerous to health in neighbourhood of villages (*Bentley*) (246).
 —, must have beneficial effect on rainfall (*Bentley*) (246).

* *See also under* SHEBBEARE.

INDEX.

FORESTS—*contd.*

- Denudation of forests, has led to soil erosion (*Finlow*) (8, 13), (*Bentley*) (246) and damage from floods (*Indian Tea Association*) (389).
- , should not be allowed near sources of hill streams or along coast (*Das*) (82).
- Forest Department, co-operation of, with Agricultural Department (*Finlow*) 18,020, 18,021, (*Shebbeare*) 20,609, 20,610, 20,735-20,737.
- , need for closer co-operation of, with Irrigation Department (*Das*) 18,820-18,825, 19,120-19,123.
- Forest products, difficult to obtain by those living in neighbourhood of forests (*Indian Tea Association*) (389).
- Forests, chiefly confined to hills in Bengal (*Finlow*) (13), (*Mitra*) (134).
- , in Western Bengal, mainly zamindari (*Finlow*) 18,022, 18,023.
- , problem of grazing in, does not arise (*Finlow*) (13).
- Fuel, may be provided by planting uncultivable waste land near villages under management of Union Boards or co-operative societies (*Mitra*) (134).
- Housing, is causing anxiety in Chittagong hill tracts (*Finlow*) (13), 18,028-18,032.
- Land suitable for tea gardens, sometimes reserved for forest (*Indian Tea Association*) (389), 23,016-23,020, 23,024-23,026, 23,092, 23,093.
- , with consequent loss to Government (*Indian Tea Association*) 23,016, 23,021-23,023, 23,088-23,091, 23,094-23,103.

HOLDINGS.

- Consolidation, compulsion of obstinate minorities to achieve (*Peddie*) (427); *see also* Compulsion of obstinate minorities under **CO-OPERATION.**
- , co-operative (*Mitra*) (130), 19,415-19,417, (*Peddie*) (427), (*Roy*) 24,392.
- , impossible (*Finlow*) (6), 18,291-18,296, 18,586, 18,587, (*Momen*) 22,147-22,152, 22,304-22,306, 22,378-22,389.
- , investigation of possibilities of, need for (*Mitra*) (130).
- , legislation for, *see* Legislation.
- , obstacles to (*Mitra*) (130), (*Mukherjee*) (177), (*Burrows*) 23,704-23,708, 23,812-23,815, (*Ahmed M.*) (558), (*Peddie*) (427).
- , of doubtful value as tending to extinguish peasant proprietor class (*Mullick*) (350), 22,622-22,626, 22,634.
- , permanent settlement, effect of on (*Momen*) 22,365, 22,366.
- , propaganda for, value of skilled (*Mukherjee*) 20,513-20,515.
- , will be helped by spread of education (*Roy*) 24,394-24,396.
- , *see also* under Union Boards and Zamindars.
- Co-operative consolidation societies, need for (*Mukherjee*) (177).
- Cultivators, may be compelled to cultivate land co-operatively to minimise effect of sub-division (*Ahmed M.*) (558).
- , *see also* Joint cultivation.
- Disputes, may be kept out of courts by co-operative societies with Government assistance (*Ahmed M.*) (558).
- , need for legislation to keep them out of courts (*Ahmed H.*) (170).
- Emigration of surplus population, the only remedy for excessive sub-division (*Indian Tea Association*) (388).
- Fragmentation, difficult to check (*Peddie*) 23,356.
- , disadvantages of, can be brought home to cultivators (*Peddie*) 23,357, 23,358.
- , prevalence of (*Roy*) 24,319, 24,320, 24,385-24,391.
- Hindu and Mohammedan law, an obstacle to consolidation (*Ahmed M.*) (558).
- Holdings, size of average (*Finlow*) 17,828-17,832, 18,405-18,409, (*Momen*) 22,143-22,146, 22,249-22,254, 22,303, (*Peddie*) 23,355, (*Burrows*) (475), 23,930.

INDEX.

HOLDINGS—*contd.*

- Intensive cultivation of small holdings, the ideal aimed at (*Finlow*) (14).
 Joint cultivation, may minimise loss due to excessive sub-division
 (*Ahmed U.*) (534).
 _____, *see also under* Cultivators.
 Land, availability of additional, and effect of occupancy rights thereon
 (*Burrows*) 23,747-23,752, 23,914-23,927, 23,937-23,949.
 Legislation for consolidation, should be avoided if possible (*Mukherjee*)
 (177).
 _____, should provide for ample compensation
 (*Ahmed U.*) (534).
 Occupancy rights of cultivators (*Mullick*) 22,503-22,507.
 Subdivision, avoidance of, by system of valuation (*Roy*) 24,321-24,327.
 Union Boards should have authority to make consolidation binding for
 several years with consent of majority (*Mukherjee*) (177), 20,090-20,098.
 Zamindars, are opposed to consolidation (*Roy*) 24,443-24,445.
 _____, charge too high, commutation fees (*Roy*) 24,327-24,335.

HUTCHINSON, Mr. C. M., late Imperial Agricultural Bacteriologist, and
MAURER, Mr. F. E., Manager, Fertiliser Department, Messrs. Shaw
 Wallace & Company, Calcutta (296-301), 21,808-22,092.

ADMINISTRATION AND RESEARCH:

- Advisory Council representing Provinces, for co-ordination of research
 (297), 22,061-22,063.
 Agricultural Adviser, should not be Director of Pusa but should be
 responsible for co-ordinating research (296), 21,821-21,825.
 Board of Agriculture, sectional meetings of, unsatisfactory 21,899,
 21,900.
 _____, should meet annually 21,896-21,898.
 Co-ordination of research, at present unsatisfactory (297).
 _____, by Advisory Council (g.v.).
 _____, should be undertaken at Pusa (297).
 Indigo, research on, stopped owing to retrenchment 21,889-21,891.
 Irrigation research, *see under* IRRIGATION.
 Lee Commission, recommendations of, and failure to attract best class
 of Indians, have militated against progress of research (296), 21,974-
 21,981, 22,036-22,041.
 Provincial research, handicapped by loss of experienced men (296).
 _____, *see also* Lee Commission.
 Pusa, continuity of research at, lacking 21,931-21,935.
 —, continuous policy at, importance of 21,825, 21,826.
 —, educational work at, should be conducted by additional staff
 (297).
 _____, should not be allowed to interfere with
 research (296).
 _____, *see also under* EDUCATION.
 —, geographical position of, unsatisfactory (297), 21,832, 21,833,
 21,864.
 _____, should be changed if funds become
 available (297), 21,885.
 —, is better equipped to provide instruction on research work on
 Indian problems than any foreign institution (296).
 —, joint directorship system at, unsatisfactory (296).
 —, must carry weight with Central Government (296).
 —, post of Director of, should be separated from that of Agricultural
 Adviser (296), 21,821-21,825.
 _____, type of man required for 21,881-21,884,
 21,886-21,888, 21,978-21,980.
 —, prestige of, high 21,813, 21,814, 21,928, 21,929.
 —, should afford such facilities for Indian research workers as will
 make it unnecessary for them to go abroad (296), 21,815-
 21,819.
 —, should have whole-time Director (296), 21,820.
 —, should maintain high standard of research for benefit of India
 as a whole (296).

INDEX.

HUTCHINSON, Mr. C. M. and MAURER, Mr. F. E.—*contd.*

ADMINISTRATION AND RESEARCH—*contd.*

- Pusa, should serve as nucleus for co-ordination of research (297).
Pusa Council 21,886-21,888.
Research, importance of, for agricultural development (296).
_____, on fertilisers, soils, &c., *see various items under FERTILISERS.*
Research workers, and teachers, attitude of mind of, different (297),
21,937, 21,938, 22,073-22,075.
_____, Indian, training of, *see under EDUCATION.*
_____, who give too much time to teaching, lose their value
for research (296, 297), 21,827-21,831.
Sericulture, research on 21,892-21,895.
Soil fertility and crop production, many problems of, may be investi-
gated in any part of India (297).

ANIMAL HUSBANDRY:

- Fodder, increase of, by means of fertilisers (299), 22,069.
Inefficiency of cattle, due to malnutrition (299).

CULTIVATION:

- Fixation of nitrogen, best obtained by exposing soil to air 22,012-
22,014.
Improved cultivation, a method of enhancing productive power of soil
(297), 22,004-22,011.

DEMONSTRATION AND PROPAGANDA:

- Cinema films for propaganda 21,859-21,863, 21,874.
Cultivators, have of necessity to be conservative (300).
_____, reasons why they have not taken to fertilisers (301).
_____, will take up new methods which are shown to be profitable
(300).
Propaganda for increasing use of fertilisers, co-operation in, of
Agricultural De-
partment 21,945-
21,952.
_____, need for (301).
Publication of research work, in English 21,873.
_____, in the vernacular 21,872.
Pusa, effect of, on cultivators in neighbourhood 21,864.

EDUCATION:

- Post-graduate study for Indian research workers, abroad, unsatisfactory;
should be given at
Pusa (296), 21,815,
21,818, 21,819, 21,875-
21,880, 21,918, 21,919,
21,926, 21,927, 22,044-
22,047.
_____, at Pusa period of
and preliminary train-
ing for 21,909-21,917,
22,037-22,043.
Study leave abroad, not objectionable 21,816-21,818.

FERTILISERS AND SOILS:

- Adulteration of fertilisers with river silt 22,004-22,008.
Agricultural Department and fertiliser industry, co-operation between:
lacking in the past (300), 21,945-21,948.
_____, liaison officers for (300).
_____, need for (300), 21,901, 21,958.
_____, suggestion for joint committee for 21,852.

INDEX.

HUTCHINSON, Mr. C. M., and MAURER, Mr. F. E.—*contd.*

FERTILISERS AND SOILS—*contd.*

- Artificial fertilisers, ability of, to remain in soil, an important consideration 21,850, 21,851.
- , manufacture of, from Indian raw material 21,967-21,973, 22,021-22,023, 22,031-22,035.
- , supplementary and not alternative to cattle manure 21,848.
- Bones, export of, should not be prohibited 21,970-21,973.
- Committee to examine fertiliser situation, need for (301), 22,078.
- Cowdung as fuel, its replacement by firewood impracticable (300), 22,001-22,003.
- Depots for fertilisers 22,086-22,089.
- District Boards and artificial fertilisers 22,090, 22,091.
- Economic return from fertilisers, information on, lack of (298).
- , need for (298), 21,849.
- Financial aid for fertiliser industry 21,902-21,908.
- Fixation of nitrogen, best obtained by exposure of soil to air 22,012-22,014.
- , research on (299), 21,936.
- Indo-Agri Limited, policy of 21,953-21,961.
- Information as to proper use of fertilisers, need for reliable (300), 22,055-22,060.
- Nitrate of soda, liable to be washed away by heavy rainfall 22,080-22,084.
- Nitrogen problems, investigation of 21,857, 21,858, 21,939, 21,940, 22,070, 22,071. *See also* Fixation of nitrogen.
- Railway facilities for fertilisers 21,962-21,965, 22,029, 22,030.
- Research on fertilisers, causes of inadequate (297), 21,834-21,841.
- , may be conducted at central institute and in Provinces 21,842-21,844.
- , suggestions for (297, 298).
- Soil bacteriology, expert on, should be appointed in each Province (299), 22,064-22,068.
- , need for research on (299).
- Soil fertility, improved cultivation as method of enhancing (297), 22,004-22,011.
- , intensive cultivation of cereals (improved implements and crops) leads to loss of, which must be made good (298, 299), 21,846, 21,847, 22,048-22,054.
- , research on, can be undertaken in any part of India (297).
- , result of intensive cultivation on, recognised by cultivators (298), 21,846.
- Superphosphates, difficulty of manufacturing, in India 21,967-21,973, 22,021-22,023.
- , storing of 21,966.
- Tea and rubber plantations, the chief users of artificial fertilisers 21,941-21,944, 22,077.
- Use of fertilisers, depends on provision of information on their economic utilisation by cultivators (300).
- , practically non-existent in India (300).

IRRIGATION:

- Decrease in fertility of soil due to canal irrigation, importance of investigating alleged 21,993-22,000.
- Irrigation, need for special laboratory to study problems connected with (301), 21,856, 21,982-21,992, 21,999, 22,000.
- , utilisation of, to best advantage, depends on accurate knowledge of relationship between soil water supply and activities of soil bacteria (301), 21,854, 21,855.

RESEARCH:

See under ADMINISTRATION (except Irrigation for which *see under* Irrigation).

SOILS:

See under FERTILISERS.

INDEX.

IMPLEMENTS.

- Agricultural engineer to deal with implements, lack of, a handicap (*Mitra*) 19,917-19,920.
- Bullocks, smallness of, an obstacle to use of improved implements (*Finlow*) (10).
- Co-operative implement societies (*Mitra*) (136), 19,913-19,916.
- Cultivators, believe their animals too weak to draw improved implements (*Finlow*) (11), 18,788, 18,789.
- Demonstrations of improved implements, need for (*Mukherjee*) (178), (*Ahmed U.*) (535).
- Depots for improved implements, need for (*Mukherjee*) (178).
- Foreign implements, of no value in Bengal (*Mullick*) (351).
- Hire-purchase system for implements, value of (*Finlow*) (5), 17,921-17,923.
- Hiring-out of implements, desirable (*Finlow*) (5), (*Mukherjee*) (178).
- Implement manufacturers, are ignorant of Indian conditions (*Finlow*) (11).
- _____, Indian, two in Calcutta (*Finlow*) 17,916-17,919.
- _____, sell by direct sales (*Finlow*) 17,920.
- _____, might adopt hire-purchase system (*Finlow*) 17,921-17,923.
- _____, should have practical representative in India (*Finlow*) (11).
- _____, should utilise co-operative societies for distribution (*Mitra*) (132).
- Improved implements, conditions for adoption of (*Mitra*) (132).
- _____, extra cost of, prevents adoption on large scale (*Finlow*) (11), 17,912-17,918.
- _____, should be borne by Government to start with (*Ahmed U.*) (535).
- _____, lack of suitable (*Mitra*) (132), 19,913-19,923.
- _____, may be supplied to co-operative societies on long-term credit (*Ahmed M.*) (559).
- Improved plough, which will be light, strong and cheap, scope for (*Finlow*) (11).
- Indian plough, attempts to improve, by fitting up-to-date body, unsatisfactory (*Finlow*) (10).
- Iron ploughs, use of, adds to fertility of soil (*Finlow*) (10).
- Loans for purchase of machinery (*Mullick*) (351).
- Mechanical cultivator suitable for tea, has yet to be devised (*Indian Tea Assn.*) (388).
- Sugarcane mills, popularity of hiring, owing to special terms given by manufacturers (*Finlow*) (4).
- Tractors, replacement of bullocks by (*Mullick*) 22,649-22,651.
- _____, scope for (*Finlow*) (10), (*Mullick*) 22,651.
- _____, will be a cause of loss unless facilities provided for their repair (*Finlow*) (10).

INDIAN JUTE MILLS ASSOCIATION, Calcutta (Messrs. J. Sime, J. T. Finlayson, J. W. A. Simpson and W. J. Soutar) (414-417), 23,190-23,278.

ADMINISTRATION :

- Agricultural Department, understaffed through lack of funds (414).
- Associations representing jute industry 23,193-23,197.
- Indian Central Cotton Committee, suggestion for similar organisation for jute 23,197-23,201.
- Meteorological Department, work of (415).
- Railways, are apt to starve stations where there is no steamer competition (415).
- _____, facilities provided by, on the whole satisfactory (414).
- _____, freight rates of, for jute, unduly high (415), 23,265-23,271.
- Steamer facilities, on the whole satisfactory (414).
- Water hyacinth and the choking of waterways (415).
- Waterways, danger of silting up of (415).
- _____, take the place of roads in Eastern Bengal (415).

INDEX.

INDIAN JUTE MILLS ASSOCIATION—*contd.*

CO-OPERATION :

- Audit of co-operative societies, must be carried out by Government (416).
- Co-operative credit system, is only to limited extent in touch with cultivators (416).
- Jute growers' association, attitude towards a possible, of jute trade 23,224, 23,239, 23,263, 23,264, 23,278.
- _____ , no attempt made to form 23,222-23,224.

CROPS :

- Co-operation between jute trade and Agricultural Department in regard to improved varieties (415).
- Cultivators, prefer to grow jute crop for fibre rather than keep some of it for seed (415).
- Indian Jute Mills Association, scheme for guaranteeing Agricultural Department against loss by, to ensure full supply of seed (416).
- _____ , seed farms under (q.v.).
- Improvements in jute, of value both to growers and trade 23,236-23,238.
- Retting, effect of, on quality of jute 23,251.
- _____ , research on 23,252-23,258.
- Seed farms under Indian Jute Mills Association, proposal for, abandoned (416).

CULTIVATION :

- Deep ploughing, unsuited to silted land (416).
- Existing systems of tillage, satisfactory (416).

DEMONSTRATION AND PROPAGANDA :

- Cultivators, will adopt improvements showing immediate financial return (415).
- Demonstration farms, can influence cultivation in their immediate vicinity only (415).

EDUCATION :

- Agricultural education (elementary) in schools, might be attempted (414).

FERTILISERS :

- Artificial fertilisers, high cost of, militates against use (415).
- _____ , not needed on land covered by silt (415), 23,202.
- Cowdung as fuel, must be used owing to lack of substitutes (415).

FINANCE :

- Co-operative credit movement, the best means of financing agricultural operations (415).
- Cultivators, seem unable to save money even when in position to do so (415).

MARKETING :

- Existing market facilities, satisfactory from point of view of jute trade (416).
- _____ , but not necessarily so from point of view of cultivators, 23,215, 23,216.
- Jute Forecasts Joint Committee (416, 417), 23,203.
- Jute forecasts, need for greater accuracy of (416).
- _____ , staff for, curtailed by retrenchment and should be increased (416).
- _____ , usefulness of, 23,204, 23,205.
- Jute in storage, making figures of, known to cultivators, 23,206-23,214.
- Jute prices, making known to cultivators, 23,272, 23,273.
- Middlemen, functions of, in jute trade, 23,216-23,218.
- _____ , value of reducing number of, 23,261-23,263.

INDEX.

INDIAN JUTE MILLS ASSOCIATION—*contd.*

RESEARCH :

- Provinces, should conduct research on crops grown mainly in their area (414).
- Pusa, should control research of All-India importance (414).

TARIFFS :

- Jute cess, for Government of India, incidence of, 23,227, 23,228.
- _____ , revenue derived from, 23,225, 23,226.
- _____ , for Provincial Government, incidence of and revenue from, 23,230, 23,231.
- _____ , increase of, would be detrimental, 23,232-23,235, 23,259, 23,260.

INDIAN TEA ASSOCIATION, Calcutta (Messrs. T. C. Crawford, P. H. Carpenter and J. A. Milligan) (386-397, 413), 22,941-23,189.

ADMINISTRATION :

- Communications, improvement of, of vital importance to cultivators as affording choice of markets (387).
- Meteorological Department, causes of unsatisfactory nature of information given by (387), 22,976-22,978.
- _____ , observations made by, in tea districts, 23,140-23,144.
- Railways, lack hitherto of progressive policy of development of, but position improving (387).
- _____ , need for feeder roads for (387).
- _____ , scope for further (387), 22,973-22,975.
- Tramways, possibilities of, 23,128-23,130.

AGRICULTURAL INDEBTEDNESS :

- Agricultural indebtedness, retards development of agriculture (388).

AGRICULTURAL LABOUR :

- Labour for tea gardens, amount required, 23,059-23,065.
- _____ , area of recruitment, 23,076-23,082, 23,104-23,106.
- _____ , difficulty of obtaining, 22,987, 22,988.
- _____ , _____ , not due to treatment being bad, 23,105, 23,131, 23,132.
- _____ , difficulty of tapping new sources, 23,082-23,084.
- _____ , money allowances and land given to, 23,149-23,151.
- _____ , permanently settled labour preferred, 22,989, 22,990.
- _____ , restrictions on, 23,082-23,087.
- Obstacles to migration of labour, (389), 22,986.
- _____ , suggestions for overcoming (389).

ATTRACTING CAPITAL :

- Tea industry, capital invested in (386).
- _____ , Indian capital being increasingly invested in (386), 22,949-22,952.

CROPS :

- District Reports on, not always satisfactory (387).
- Elephants, damage done by, near forests (388), 22,981-22,985, 23,126, 23,127.
- _____ , efforts by Forest Department to keep down, inadequate (388).
- Pests and diseases affecting tea plants, under investigation by Scientific Department of Indian Tea Association (388).
- Tea, acreage under 23,058.
- , intercultivation with indigo a failure 23,124, 23,125.
- , seed, demand for 23,158.

INDEX.

INDIAN TEA ASSOCIATION—*contd.*

DEMONSTRATION AND PROPAGANDA :

Demonstration farms, too scattered to influence small cultivators (387).
Demonstrations on cultivators' own holdings, need for (387).

EDUCATION :

Readers in primary schools, might be given agricultural bias (390).
Science courses at Indian Universities, laboratory skill of students lacking
owing to system of teaching (387), 22,961-22,972.
_____, and owing to examination syllabus
23,136-23,139.
_____, need for improving low standard
(387), 22,959-22,961.

FERTILISERS :

Adulteration, legislation against, not desirable at present (388).
_____, rules drawn up by Tea Association to prevent, not suitable
for governing sales to cultivators (388).
Cowdung as fuel, use of, may be discouraged by demonstrating its advantages
as manure (388).
Cultivators, conservatism of, an obstacle to their adoption of fertilisers
(388).
_____, in neighbourhood of tea gardens, safe taking to fertilise
(388), 22,979, 22,980.
Demonstrations of fertilisers, should be arranged by Government officials
in collaboration with fertiliser industry (388).
Nitrate of soda, washed out of soil fairly rapidly 23,155.
Potassium nitrate, not used for tea on account of high price 23,159-23,16
Silt from rivers, injurious as fertiliser 23,183, 23,184.
Tea, fertilisers used for 23,120, 23,121, 23,125, 23,187-23,189.

FORESTS :

Afforestation of river banks to avoid floods, value of (389).
Forest products, difficult to obtain by those living in neighbourhood
forests (389).
Land suitable for tea gardens, sometimes reserved for forest (389)
23,016-23,020, 23,024-23,026, 23,09
23,093.
_____, with consequent loss to Government
23,016, 23,021-23,023, 23,088-23,09
23,094-23,103.
Tea gardens, have in some cases spare land for future extension 23,17
23,179.

HOLDINGS :

Emigration of surplus population, the only remedy for excessive subdivision
(388).

IMPLEMENTS :

Mechanical cultivator suitable for tea, has yet to be devised (388).

MARKETING :

China tea, manufacture of, in Almorah district 23,116-23,118.
Competition of Java and China for export tea market (390), 23,066-23,07
23,147, 23,148.
Indian Tea Association, membership of 23,034, 23,038.
Indian Tea Cess Committee, expenditure of, on propaganda (397), 23,07
23,075.
_____, finance of 22,945.
_____, is concerned only with advertising 22,943.
_____, memorandum on (*Appendix*) (396, 397).
_____, relations of, with Indian Tea Association
22,942.
_____, results of work of 22,946-22,948.
Indian tea, chiefly exported to England 23,073, 23,108.

INDEX.

INDIAN TEA ASSOCIATION—*contd.*

MARKETING—*contd.*

- Indian tea industry, position of, in world market (*Appendix*) (413).
Kurdistan, requires green tea which is chiefly supplied by Russia 23,109-23,115.
Middlemen in tea marketing 23,152-23,154.
Standard of quality for tea, for consumption in India, desirability of (389), 23,027-23,029.
_____, steps taken to effect (389).
_____, for export, no steps taken to ensure 23,156, 23,157.

RESEARCH :

- Board of Agriculture, meetings of, not suitable for discussion of purely scientific problems (386), 23,052-23,055.
Conferences of research workers, need for revival of (386), 23,056.
Co-ordination of scientific work in agriculture, need for (386).
Pusa, inadequate for whole of India and requires enlarging (386).
Scientific Department of Indian Tea Association, closer touch with Pusa desirable 22,953-22,958, 23,048
_____, no Government representation on 23,043, 23,044, 23,047, 23,048.
_____, work of (*Appendix*) (391-395).
Subjects suggested for research (386, 387).
Tea research, at Government stations, possibility of 23,051.
_____, need for central station for, with number of small district stations owing to differences in climate, soil, etc. 23,039-23,042.

SOILS :

- Soil bacteriology, need for research on (387).

STATISTICS :

- Statistical tables in "Note on the Production of Tea in India," need for earlier publication of (390).
Statistics of tea production prepared by Government, legislation for compulsory returns of planting statistics for, not objectionable (390), 23,033-23,037.
Statistics of tea production prepared by Government, not so accurate as Tea Association's figures (390).

TARIFFS :

- Export duty on tea, amount raised by and incidence of 23,162, 23,163.
_____, detrimental to interests of agricultural classes (389, 390), 23,071, 23,164-23,174.
_____, effect of, on production of tea in India compared with Java (390).
_____, has no effect on prices in India 23,030-23,032.
_____, in Ceylon, compared with India 23,145, 23,146.

WELFARE :

- Drinking water, attention paid to, on tea estates 23,133, 23,134.
Hookworm, satisfactory results of campaign against in tea gardens 22,993, 22,995-23,000.
Labour in tea gardens, conservatism of with regard to hygiene an obstacle 22,991, 22,992, 23,001, 23,002.
_____, medical attention for 23,003-23,005.
Malaria surveys conducted by Tea Association 22,993, 22,994.
Sanitary Commissioner's Department, should be brought in closer touch with rural population (390).

INDEX.

IRRIGATION.

- Agricultural and Sanitary Drainage Act and minor irrigation works
(*Das*) 18,879, 19,069-19,079.
- Agricultural Department, is responsible for well irrigation (*Finlow*)
17,580.
- Agricultural Engineer, appointment of, to deal with wells (*Finlow*) (7),
17,863.
- Area irrigated in Bengal (*Finlow*) 18,476.
- Area of Presidency short of water October-June, 25 per cent (*Das*)
18,907, 18,908.
- _____, none now irrigated
(*Das*) 18,908.
- _____, part of, will be
covered by Damodar
project (*Das*)
18,908.
- _____, scope for irrigating
(*Das*) 18,909-18,911.
- Budget of Irrigation Department, apportionment of (*Das*) 18,858-18,865,
19,043, 19,044, 19,048-19,052, 19,056, 19,057.
- Canals in Bengal, capital cost of (*Das*) 19,053.
- _____, certain of, used for navigation only (*Das*) 19,045-
19,047.
- _____, none classified productive (*Das*) 18,831.
- _____, return on, 1 per cent. (*Das*) 19,054.
- _____, scope for further (*Das*) (82), (*Mitra*) (130).
- _____, under construction (*Das*) 18,831-18,834, 18,908.
- _____, velocity of, low on account of navigation (*Das*)
18,999-19,004.
- Contour survey, does not exist in Bengal (*Das*) (82), 18,845, 18,846,
18,943-18,952.
- Co-operation of Irrigation Department, with Agricultural Department,
close (*Das*) 18,818, 18,819,
18,869-18,873, (*Finlow*) 18,120,
18,121.
- _____, with Co-operative Department
(*Das*) 18,912.
- _____, with Forest Department, need
for closer (*Das*) 18,820-18,825,
19,120-19,123.
- _____, with Public Health Department
(*Das*) 18,923, 18,924, 19,119,
(*Bentley*) 21,289, 21,290, 21,450.
- Co-operative irrigation societies, aims of (*Mitra*) 19,959-19,963.
- _____, can construct minor irrigation works
(*Mitra*) (130), 19,418-19,441, 19,753-
19,760.
- _____, compulsion of obstinate minorities
(*Mitra*) (136), 19,557, 19,558, 19,670-
19,675, 19,964, 19,965.
- _____, have been very successful (*Mitra*) (136).
- _____, technical advice for (*Das*) 19,110-
19,115, (*Mitra*) 19,422-19,430, 19,574-
19,577, 19,636-19,640, 19,966-19,972.
- _____, value of (*Momen*) (324).
- Cropped area in Burdwan, has progressively declined through lack of
irrigation (*Bentley*) (241, 242).
- Crop production, effect of irrigation on (*Bentley*) (241), 21,322-21,329.
- Damodar canal project (*Das*) 18,831-18,834, 18,908.
- Data, need for further, before extension of irrigation is possible (*Das*)
18,845-18,848, 19,019.
- _____, staff of Irrigation Department should be extended to secure (*Das*)
18,847, 19,091.
- Decrease in fertility of soil due to canal irrigation, importance of investi-
gating alleged (*Hutchinson*) 21,993-22,000.
- Deltaic irrigation schemes, not more difficult than those elsewhere (*Das*)
18,842-18,844.
- Deltaic rivers, control of (*Burrows*) 23,657-23,662.

INDEX.

IRRIGATION—*contd.*

- Deterioration of rivers, effect of (*Finlow*) (7).
 Distribution of water to cultivators (*Das*) 18,917-18,922, 19,023-19,026, (*Mitra*) (130), (*Bentley*) (242).
 Drainage schemes undertaken under Drainage Acts, small (*Das*) 19,116-19,118.
 Dredgers, owned by Irrigation Department (*Das*) 19,097-19,101.
 Dredging, land raised by, sold as village sites (*Das*) 19,102.
 Embankments, double, have deleterious effect on mouth of river (*Das*) 19,107, 19,108.
 _____, system of, double (*Das*) 19,103-19,106.
 Establishment charges of Irrigation Department, 20 per cent. (*Das*) 18,989-18,992.
 Flooding and flushing of soil, need for investigating possibilities of (*Das*) (82).
 Fodder crops, cannot be grown without irrigation (*Bentley*) (242, 246), 21,239-21,241, (*Peddie*) 23,331.
 Higher lands, irrigating of (*Bentley*) 21,342-21,345.
 Irrigation, at one time extensive in Bengal (*Bentley*) (241).
 _____, decay of, causes and effect of (*Bentley*) (241), 21,338, 21,339.
 _____, from canals, often taken for sake of silt (*Das*) 18,866, 19,124, 19,125.
 _____, importance of (*Finlow*) (1), 17,961, (*Bentley*) (241), 21,238, 21,370, (*Momen*) (324), 22,153.
 _____, lack of funds for, the chief obstacle (*Finlow*) 18,113-18,119, 18,678-18,681, (*Ahmed M.*) (558).
 _____, need for comprehensive policy for (*Mitra*) (131).
 _____, scope for (*Das*) 18,866, 19,065-19,068, 19,082-19,085, (*Bentley*) (241), 21,233, 21,370, (*Mullick*) (350), 22,454-22,456, (*Momen*) 22,407-22,409, (*Peddie*) (427, 428), 23,318-23,325, 23,328-23,330, 23,397-23,400, 23,404, 23,405, (*Burrows*) 23,656, (*Ahmed U.*) (534), 24,181, 24,184, (*Roy*) 24,478, 24,479, (*Ahmed M.*) (558).
 _____, programme for, limited to productive schemes (*Das*) 19,088-19,090.
 _____, utilisation to best advantage of, depends on knowledge of relationship between soil water supply and activities of soil bacteria (*Hutchinson*) (301), 21,854, 21,855.
 Irrigation cess, collected by special officers (*Das*) 19,027-19,029.
 Irrigation Department, budget of, *see* Budget.
 _____, co-operation of, with other departments, *see* Co-operation.
 _____, effect of retrenchment on (*Das*) 19,086, 19,087.
 _____, indifferent to interests of cultivators (*Roy*) 24,496-24,498.
 _____, is in charge of irrigation, drainage and navigation (*Das*) 18,987.
 _____, scope for further activity by (*Burrows*) 23,655, 23,663-23,665.
 _____, staff of, insufficient (*Das*) (82), 18,841.
 _____, scheme for increasing, held up by lack of funds (*Das*) 19,092, 19,093.
 _____, undertakes clearing of waterways from silt and weeds (*Das*) 18,849-18,857.
 Lift irrigation, possibilities of (*Finlow*) 18,511-18,513.
 _____, practised on small scale by cultivators (*Das*) 18,962-18,964.
 Malaria and irrigation, connection between (*Bentley*) (246), 21,346, 21,405, 21,406, (*Roy*) 24,255-24,263, (*Chatterjee*) (225), 21,106-21,116.
 Minimum area requiring protection (*Finlow*) 18,729-18,743.
 Minor irrigation works, co-operative construction of (*Finlow*) 17,845, (*Das*) 18,879, 18,880; *see also* Co-operative irrigation societies.
 _____, have been held up by lack of funds (*Finlow*) 18,113-18,119.
 _____, have fallen into decay in many places (*Mitra*) (130).

INDEX.

IRRIGATION—*contd.*

- Minor irrigation works, in Bankura and Birbhum, new executive division for (*Das*) 18,876-18,878.
 _____, increased fertility due to (*Mitra*) 19,440.
 _____, irrigation officers to advise on (*Finlow*) 17,840-17,847.
 _____, might be undertaken by Collectors and Local Boards (*Das*) 19,070.
 _____, need for small commission to investigate possibilities of (*Finlow*) (7).
 _____, preliminary cost of, at present falls on cultivators (*Das*) 18,880-19,076-19,078.
 _____, might be borne partly by Government or Local Board (*Das*) 19,070-19,079.
 _____, progress made in, by co-operative efforts (*Mitra*) (130), 19,418-19,441.
 _____, provisions of Act 6 of 1920 concerning (*Finlow*) 18,682-18,688.
 _____, proposals for, in Birbhum district (*Das*) 18,830-18,994-18,996.
 _____, repair and construction of, now being undertaken (*Finlow*) (6).
 _____, scope for (*Finlow*) (6), 17,848, (*Mitra*) (130) 19,418.
 _____, standing commission to investigate, desirable (*Finlow*) 17,864-17,866.
 Non-perennial canals, need for (*Bentley*) (241).
 Obstacles to extension of irrigation (*Bentley*) (242), (*Peddie*) (428).
 Paddy, charge for irrigation water for (*Das*) 19,020, 19,021.
 _____, irrigation of *aman* crop (*Das*) 18,966-18,971.
 _____, irrigation of, by excavation of abandoned minor works (*Das*) 18,128, 19,129.
 _____, water required for (*Finlow*) 18,721-18,724.
 Productive and unproductive schemes, method of classification (*Das*) 18,820-18,830, 19,061-19,064.
 Productive schemes, none exist at present (*Das*) 18,831, (*Finlow*) 17,840-17,844.
 _____, one under construction (*Das*) 18,831-18,834.
 Rainfall, area affected by uncertainty of (*Finlow*) 18,725-18,736.
 _____, heavy in Bengal (*Das*) 18,866.
 _____, period of shortage of (*Das*) 18,897-18,906.
 Research on irrigation questions, need for special laboratory (*Hutchinson*) (301), 21,856, 21,982-21,992, 21,999, 22,000.
 Rivers, need for controlling (*Mitra*) (131).
 _____, prevention of their tendency to change their course, has had harmful effects (*Das*) 18,925, 18,926, (*Bentley*) (241), 21,291, 21,292 (*Finlow*) (7).
 _____, spilling over of, would reclaim land in vicinity (*Das*) 18,926-18,928.
 Storage of water, not undertaken on large scale (*Das*) 18,826.
 Tanks, belong in most cases to private owners (*Bentley*) 21,279.
 _____, co-operative re-excavation of (*Peddie*) (428), (*Roy*) 24,487-24,490.
 _____, excavation of abandoned, desirable (*Das*) 19,128, 19,129, 19,130-19,134.
 _____, improvement of existing, financial difficulties of 21,286-21,288.
 _____, Government grant for 21,362-21,364.
 _____, legislation for 21,282-21,287.
 _____, obstacles to (245).
 _____, of no value without larger supply of water 21,280-21,283.
 _____, irrigation from, not an urgent need (*Das*) 19,094-19,096.
 _____, majority of, do not hold water throughout the year (*Bentley*) 21,278.
 _____, method of distributing water from (*Roy*) 24,480.
 _____, need for (*Bentley*) (241).
 _____, need for loans for re-excavation of (*Roy*) 24,481.

INDEX.

IRRIGATION—contd.

- Tanks, silting up of, common (*Finlow*) (6), 18,588, (*Momen*) (324), (*Peddie*) (428).
 Tube wells, investigation of possibilities of irrigation from, desirable (*Das*) 19,131.
 _____, not used for irrigation (*Das*) 19,130, (*Finlow*) 17,856.
 Unproductive schemes, two in existence (*Das*) 18,838, 18,839.
 _____, none in contemplation (*Das*) 18,840.
 Velocity of canals, *see* Canals.
 Wastage of water by absorption and evaporation, not acute (*Das*) (82).
 Waterlogging, *see* under SOILS.
 Water rate in permanent settlement areas, Acts governing (*Peddie*) 23,410-23,414.
 _____, method of charging (*Peddie*) 23,409.
 _____, presents no difficulty (*Peddie*) 23,406-23,408.
 Water table, depth of (*Das*) 18,883-18,886.
 Wells, ordinary, can be constructed locally (*Finlow*) 17,853-17,855, (*Das*) 18,881.
 _____, give ample supply throughout the year (*Das*) 18,882.
 _____, funds for (*Finlow*) 17,851, 17,852.
 _____, unsuitable for irrigation in Bengal (*Peddie*) 23,326, 23,327, 23,384, 23,385, (*Momen*) (324), 22,367, 22,368, (*Roy*) 24,482-24,485, 24,490-24,492.

KERR, Mr. P. J., M.R.C.V.S., I.V.S., Veterinary Adviser (98-102), 19135-19,346.

ANIMAL HUSBANDRY.

- Animal nutrition, importance of studying (101), 19,163, 19,201, 19,202, 19,225.
 _____, investigation of 19,201-19,208.
 _____, need for physiological chemist to study (101).
 Cattle in Bengal, are too small 19,152.
 _____, large numbers imported annually 19,153, 19,158-19,162, 19,325-19,329.
 _____, number of, 25 millions 19,159.
 _____, small draught animals preferred 19,150, 19,151.
 Cattle breeding, Farms for, need for establishment of (101).
 _____, employment of veterinary assistants at (101), 19,314-19,320.
 _____, not carried out in Bengal 19,229, 19,230.
 _____, should remain under Agricultural Department 19,295.
 Cattle cakes 19,226-19,228.
 Cattle Expert, forthcoming appointment of (101).
 _____, may be under Agricultural or Veterinary Department 19,343-19,346.
 Cattle Improvement Committee, suggestion for (101).
 Co-operative Milk Union, Calcutta, idea of, capable of expansion 19,215, 19,271.
 _____, municipal subsidy for (98), 19,269, 19,270.
 _____, success of, in inducing owners to take interest in their cattle (98).
 _____, work of (98), 19,209-19,214, 19,266-19,268.
 Cows, neglect of 19,170-19,173.
 Crossing, of Indian breeds 19,156, 19,231.
 _____, with European strains, valuable only for milk supply 19,149, 19,235-19,237.
 Cultivators, measures necessary to interest, in animal husbandry (102).
 Dairy products, demand for 19,219, 19,220.
 Dairy work, might be carried out at jails and district and central farms (101).
 District agricultural farms, herds at, might be utilised for improvement of cattle (101).
 _____, might be utilised for dairy work (101).
 European cattle, susceptibility of, to rinderpest 19,335-19,338.

INDEX.

KERR, Mr. P. J.—*contd.*

ANIMAL HUSBANDRY—*contd.*

- Fodder, effect of feeding with, on milk yield 19,287-19,294, 19,300-19,302, 19,339-19,341.
 ———, need for growing 19,163-19,165.
 ———, period of shortage of (102).
 ———, preservation of, *see* Silage.
 Grazing grounds, in Bengal, of no food value (101), 19,303-19,307.
 Jails, herds kept at, their utilisation for cattle improvement (101), 19,234, 19,308-19,310.
 ———, might be used for dairy work (101).
 Milk yield, improvement in, through feeding with fodder crops 19,287-19,294, 19,300-19,302, 19,339-19,341.
 Plantain leaves as fodder (101).
 Silage, dry, need for experiments with (102), 19,166-19,168.
 ———, difficulties of ordinary methods of preserving 19,169.
 Sindi cattle, more liable to rinderpest 19,310, 19,331-19,338.

VETERINARY:

- Cattle mortality statistics, untrustworthy 19,249-19,255.
 Central Veterinary Bureau for control of contagious diseases, need for (98).
 Compulsory inoculation, would tend to stop voluntary notification (100).
 Contagious diseases, control of, by segregation, impossible (100).
 ———, Central Veterinary Bureau for (98).
 ———, legislation for, difficult to enforce (99, 100), 19,199, 19,200.
 ———, must be vested in Provincial Government, not District Boards (98), 19,137, 19,138.
 ———, should be subject to advisory control of Government of India (98).
 ———, difficulties of dealing with (99).
 ———, emergency staff for 19,187-19,189.
 ———, failure to notify, should be penalised (100), 19,321-19,324.
 ———, need for adequate organisation to deal with when reported (100).
 ———, notification of (100), 19,250-19,255, 19,272-19,276.
 Co-ordination of provincial veterinary work, need for (98).
 Cultivators, attitude of, towards veterinary work (99), 19,281-19,283.
 Dispensaries, at district headquarters, should be transferred to provincial control (99).
 ———, clinical, one should be provided for each *thana*, by arrangement with Union Boards (99), 19,181-19,185, 19,246-19,248, 19,296-19,299.
 ———, control of, by District Boards, unsatisfactory (99).
 ———, defects of, suggestions for improving (99).
 ———, supervision of (99), 19,242-19,245.
 ———, touring, none in Bengal (99).
 District Boards, control of dispensaries by, *see* Dispensaries.
 ———, control of Veterinary Assistant Surgeons by (*q.v.*).
 ———, their attitude to veterinary work 19,174, 19,280-19,284.
 European cattle, their susceptibility to rinderpest 19,335-19,338.
 Financing of veterinary research (98), 19,223, 19,224.
 Foot and mouth disease 19,239.
 Inoculation, charging of fees for, by District Boards, a handicap to its use (100).
 ———, discouraged by Government (100).
 ———, serum for, cost of, in Bengal, Rs.60,000 to Rs.1,00,000 a year (100).
 ———, should be paid from provincial revenues 19,138.
 ———, sterilisation of, impossible at present 19,237, 19,238.
 ———, suggestions for supply of 19,240, 19,241.
 Muktesar Institute, should be enlarged and reorganised (98, 101).

INDEX.

KERR, Mr. P. J.—contd.

VETERINARY—contd.

- Muktesar Institute, should co-ordinate provincial research (101).
 Propaganda to demonstrate value of veterinary work (100), 19,285, 19,286.
 Provincial Government, should control contagious disease staff and district headquarter dispensaries (99).
 Provincial research laboratories, need for (98).
 Research, at Veterinary College 19,258-19,263.
 ———, need for provincial (98, 100, 101).
 Rinderpest, avenues of infection 19,194-19,196.
 ———, cyclic tendency of 19,195, 19,196.
 ———, inoculation against, simultaneous method, success of 19,191.
 ———, adoption of, by cultivators 19,192, 19,193.
 ———, *see also* Inoculation.
 ———, prevention of spread of, by blocks of immunised villages, difficult 19,197, 19,198.
 ———, susceptibility to, of Sindi and European cattle 19,310, 19,331-19,338.
 ———, the most formidable disease in Bengal 19,190.
 ———, *see also* Contagious disease.
 Serum, *see* Inoculation.
 Sindi cattle, are more liable to rinderpest 19,310, 19,331-19,338.
 Union Boards, scheme for co-operation by, to maintain a clinical dispensary in each *thana* 19,181-19,185, 19,246-19,248, 19,296-19,299.
 Veterinary Adviser with Government of India, need for appointment of (98).
 ———, should be Director of Muktesar (99).
 ———, work of (101).
 ———, would not have time to conduct research (101), 19,140.
 ———, but should have general direction of research 19,141-19,144.
 Veterinary Assistant Surgeons, control of, by District Boards, unsatisfactory (99), 19,174-19,178.
 ———, two needed for each subdivision 19,177.
 Veterinary college, work of laboratory at 19,258-19,263.
 Veterinary Department, in Bengal, staff of, duties of 19,186-19,189.
 ———, subordinate, corruption amongst 19,179.
 ———, superior, need for increasing 19,180.
 ———, should be independent of Agricultural Department and under Veterinary Adviser to Government of India (98, 99), 19,145.

LEAN, *see* FINLOW.

MARKETING.

- Aratdars, function of (*Morgan*) 21,486-21,488, 21,503, 21,504, 21,628, 21,632, (*Burrows*) (476, 477).
 Beparis, do not as a rule engage in moneylending (*Morgan*) 21,490.
 ———, function of (*Morgan*) 21,482-21,485, 21,626, (*Burrows*) (476).
 Calcutta Jute Dealers Association (*Morgan*) 21,586-21,593, 21,635-21,638.
 Cardamom, marketing of (*Mitra*) (138).
 Chain of marketing from cultivators onwards (*Morgan*) 21,481-21,485, 21,581-21,583, 21,626-21,631, 21,693-21,695, 21,700-21,705.
 Communications, *see under* ADMINISTRATION.
 Consumption of jute, stable (*Morgan*) 21,618-21,620, 21,737-21,742.

INDEX.

MARKETING—*contd.*

- Co-operative jute-buying organisation (*Finlow*) 14, 18,061-18,068.
 Co-operative jute sale societies, aim of, to eliminate middlemen (*Mitra*) 19,926, 19,927.
 _____, 5 already working (*Mitra*) 19,924, 19,925,
 _____, capital of (*Mitra*) 19,536.
 _____, great possibilities of (*Morgan*) 21,505,
 _____, 21,506, 21,658, 21,659.
 _____, have established good reputation in
 _____, Calcutta (*Mitra*) (135).
 _____, hire their own godowns (*Morgan*) 21,508,
 _____, 21,509.
 _____, methods and work of (*Mitra*) 19,536-
 _____, 19,540, 19,986-19,992, (*Burrows*) (477),
 _____, 23,696, 23,697.
 _____, opposition to, from vested interests
 _____, (*Mitra*) 19,928.
 _____, spreading (*Morgan*) 21,726-21,729.
 _____, trading risk of, borne by members
 _____, (*Morgan*) 21,514-21,516.
 _____, will arrange their own transport and take
 _____, jute to final market (*Morgan*) 21,507,
 _____, 21,511-21,513, 21,758.
 Crop forecasts, (*Finlow*) (14, 15); *see also* Jute forecasts.
 _____, margin of error in, probably constant (*Burrows*) (478).
 _____, might be of demand as well as supply (*Burrows*) (477),
 _____, 23,698-23,701.
 Crop returns, should be made available to cultivators (*Mitra*) (134, 135).
 _____, are fairly accurate (*Morgan*) 21,621, 21,622.
 Cultivators, are in touch with market conditions (*Morgan*) (273), 21,497,
 _____, 21,498, 21,644-21,646, 21,714-21,718, 21,761-21,764, (*Burrows*)
 _____, (477), (*Roy*) 24,400, 24,401.
 _____, are interested in jute prices (*Finlow*) 18,082.
 _____, do not sell direct to large jute firms (*Morgan*) 21,499, 21,500,
 _____, 21,579, 21,580.
 _____, essential to secure fair share of value of produce for (*Finlow*)
 _____, 18,052, 18,053.
 _____, financing of (*Morgan*) 21,489.
 _____, hold up their crops for better prices (*Burrows*) (477, 478).
 _____, making jute forecasts known to, *see* Jute forecasts.
 _____, not in a position to hold up their jute, whatever information
 _____, they receive (*Morgan*) 21,722, 21,723.
 _____, price received by, governed chiefly by supply and demand
 _____, (*Morgan*) 21,493-21,496.
 _____, should be given fuller information as to crops and prices
 _____, (*Finlow*) 18,071-18,076, (*Mitra*) (134), (*Mukherjee*) (181),
 _____, 20,104-20,108, (*Burrows*) (477), (*Jute Mills Association*)
 _____, 23,272, 23,273, *see also under* Jute.
 _____, where communications are bad, do not get proper price for
 _____, their produce (*Roy*) 24,401-24,403.
 Dadan system of advancing money against crops, not common (*Burrows*)
 _____, (477), 23,694, 23,695.
 Existing market facilities, satisfactory from point of view of jute trade
 _____, (*Jute Mills Association*) (416).
 _____, but not necessarily so from point of view of
 _____, cultivators (*Jute Mills Association*) 23,215,
 _____, 23,216.
 _____, unsatisfactory (*Ahmed M.*) (560).
 Farias, function of (*Morgan*) 21,482-21,485, 21,696-21,706, 21,753, (*Burrows*)
 _____, (476).
 Fluctuations in price of jute, publishing of (*Morgan*) 21,555-21,558.
 _____, sometimes violent (*Morgan*) 21,529, 21,554,
 _____, 21,647.
 Government certificates of purity and packing would be valuable for export
 _____, trade (*Mitra*) (134).
 Hundis, not used in Faridpur district (*Burrows*) (477), 23,693.

INDEX:

MARKETING—*contd.*

- Indian Tea Association, membership of (*Indian Tea Association*) 23,034
23,038.
- Indian Tea Cess Committee, expenditure of, on propaganda (*Indian Tea Association*) (397), 23,074, 23,975.
- _____, finance of (*Indian Tea Association*) 22,944.
- _____, is concerned only with advertising (*Indian Tea Association*) 22,943.
- _____, memorandum on (*Appendix*) (*Indian Tea Association*) (396, 397).
- _____, relations of, with Indian Tea Association (*Indian Tea Association*) 22,942.
- _____, results of work of (*Indian Tea Association*) 22,946-22,948.
- Indian tea, chiefly exported to England (*Indian Tea Association*) 23,073
23,108.
- Indian tea industry, position of, in world market (*Appendix*) (*Indian Tea Association*) (413).
- Information on market conditions, of little value to cultivators at present owing to their ignorance (*Mullick* (352), (*Burrows*) (477), 23,691; see also under *Cultivators*).
- _____, showing possible demand for agricultural produce, need for (*Mitra*) (135) (*Burrows*) (477).
- Inquiry into channels of marketing, value of (*Finlow*) 18,050, 18,051, 18,069
18,070.
- Jute, 55 lakhs of bales consumed in Indian mills and 35 exported (*Morgan*)
21,564, 21,711, 21,712.
- _____, finished product, chiefly exported (*Morgan*) 21,566-21,568.
- _____, 4 grades of, recognised by trade (*Morgan*) 21,794.
- _____, basis of grading (*Morgan*) 21,802.
- _____, improved varieties of, are mixed with ordinary varieties at mill (*Morgan*) 21,677, 21,678, 21,745-21,749.
- _____, command a premium (*Morgan*) 21,747
21,751.
- _____, if resulting in increased yield, would lower the price (*Morgan*) 21,787, 21,740-21,743
- _____, more suitable for Calcutta mills than for export (*Morgan*) 21,679.
- _____, India's position in regard to, secure in immediate future (*Finlow*)
18,073-18,075, 18,083-18,085, 18,813.
- _____, in storage, making information known to cultivators (*Jute Mills Association*) 23,206-23,214, (*Ahmed M.*) 24,588.
- _____, marketing of (*Finlow*) (13, 14), 18,036-18,044, (*Mitra*) (*Appendix*)
(137, 138).
- _____, minimum price of, should be fixed and broadcast before sowing commences (*Ahmed M.*) (560), 24,586-24,596.
- _____, need for evolving variety fibre of which will suit both Dundee and India (*Mitra*) (131), 19,570-19,573.
- _____, need for watching world demand and affording information to cultivators (*Finlow*) 18,076, 18,081, 18,082.
- _____, note on average price of, and profits of cultivation (*Finlow*) (81).
- _____, number of bales of, sold (*Mitra*) 19,936-19,941.
- _____, pressing of (*Morgan*) 21,504, 21,509, 21,510, 21,584.
- _____, producers of, do not get fair price owing to intervention of middlemen (*Mitra*) 19,929-19,942.
- _____, quality of, required for Dundee and Calcutta (*Morgan*) 21,675-21,677.
- _____, regulation of quantity of, by better dissemination of market intelligence (*Morgan*) 21,713.
- _____, speculation in (*Morgan*) 21,528, 21,604-21,606, 21,797, 21,798.
- _____, stable supply of, desirability of (*Morgan*) 21,526.
- _____, lack of, harm done by (*Morgan*) 21,519, 21,526,
21,618-21,620.
- _____, lack of, more pronounced than formerly (*Morgan*)
21,527-21,529.

INDEX.

MARKETING—*contd.*

- Jute, substitutes for, not a serious menace (*Morgan*) 21,684-21,686.
 Jute brokers (*Morgan*) 21,547-21,551.
 Jute forecasts, accuracy of (*Morgan*) 21,621-21,625, (*Jute Mills Association*) (416), (*Finlow*) (15).
 _____, assistance of, to millowners (*Morgan*) 21,725.
 _____, to speculators (*Morgan*) 21,724.
 _____, effect of, on cultivators (*Morgan*) 21,690, 21,691.
 _____, should be made known to cultivators (*Morgan*) 21,519-21,526, 21,765-21,777.
 _____, staff for, curtailed by retrenchment and should be increased (*Jute Mills Association*) (416).
 _____, time of issue of (*Morgan*) 21,687.
 _____, value of (*Jute Mills Association*) 23,204, 23,205.
 Jute Forecasts Joint Committee (*Jute Mills Association*) (416, 417), 23,203.
 Marketing, of products of subsidiary industries (*Mitra*) (133), 19,830-19,832.
 _____, note on methods of (*Appendix*) (*Mitra*) (137, 138).
 Middlemen, dealing with jute, methods, charges and numbers of (*Finlow*) (13), 18,036-18,049, (*Mitra*) (137), 19,929-19,942, 19,995-19,999, (*Jute Mills Association*) 23,216-23,218.
 _____, disturb crop market (*Mullick*) (352).
 _____, elimination of (*Finlow*) (13), (*Morgan*) 21,752-21,754, (*Jute Mills Association*) 23,261-23,263, (*Burrows*) (477).
 _____, in tea marketing (*Indian Tea Association*) 23,152-23,154.
 _____, margins on which they operate (*Morgan*) 21,501, 21,502, 21,594-21,600, 21,655-21,657, 21,758-21,760, (*Burrows*) (477).
 Moneylenders, have lien on crops against which they advance money (*Morgan*) 21,491-21,494.
 Paddy, marketing of (*Mitra*) (137), (*Roy*) 24,397-24,399.
 Tea, competition of Java and China for export trade in (*Indian Tea Association*) (390), 23,066-23,073, 23,147, 23,148.
 _____, manufacture of China, in Almorah district (*Indian Tea Association*) 23,116-23,118.
 _____, standard of quality for, for consumption in India, desirability of (*Indian Tea Association*) (389), 23,027-23,029.
 _____, steps taken to effect (*Indian Tea Association*) (389).
 _____, for export, no steps taken to ensure (*Indian Tea Association*) 23,156, 23,157.
 Tobacco, marketing of (*Mitra*) (138).
 Tumeric, marketing of (*Mitra*) (138).
 Vegetables, marketing of (*Mitra*) (138).
 Weights and measures, standardisation of (*Finlow*) 18,055-18,060, (*Morgan*) 21,710.
 _____, variations in (*Morgan*) 21,708, 21,709, (*Mitra*) (138).

IAURER, *see* HUTCHINSON.

MILLIGAN, *see* INDIAN TEA ASSOCIATION.

MITRA, Rai Bahadur J. M., M.A., Registrar of Co-operative Societies (127-138), 19,393-20,010.

ADMINISTRATION:

- Agricultural Service, is too understaffed to be efficient (128).
 All-India Research Board, need for, to co-ordinate agricultural and veterinary research (127), 19,781-19,783.
 Branch and feeder lines, Government assistance for (129).
 _____, need for further (129).
 Communications, effect of, on market facilities (134).

INDEX.

MITRA, Rai Bahadur J. M.—*contd.*

ADMINISTRATION—*contd.*

- Financing of research, from revenue (127).
- _____ , by small export cess (127), 19,783-19,787.
- Railways and steamships, competition between, has not benefited the cultivator (129).
- Roads, lack of (129).
- Veterinary Service, is too understaffed to be efficient (128).

AGRICULTURAL INDEBTEDNESS :

- Bengal Tenancy Act, effect of 19,515-19,517.
- Causes of borrowing (129).
- Control of credit, except in case of backward tribes, undesirable (130), 19,825, 19,826.
- _____ , may raise rate of interest 19,894, 19,895.
- Fabrication of accounts by moneylenders as a cause of indebtedness (129), 19,813.
- Jute, fluctuations in price of, a serious cause of indebtedness (129), 19,810-19,812.
- Moneylenders, rates of interest of, have been reduced by credit societies 19,496, 19,497.
- Moneylending landlords 19,896-19,904.
- Mortgage and sale, right of, should not be limited (130).
- Non-terminable mortgages, should be restricted (130).
- Reasons preventing repayment (129).
- Rural debt in Bengal, amounts to about 60 crores 19,819, 19,823.
- _____ , is more or less stationary 19,828, 19,829, 20,000-20,003.
- _____ , relief of, by spread of co-operative movement and land mortgage banks (130).
- _____ , from savings of agriculture 19,815-19,818.
- _____ , special measures to deal with, unnecessary (129).
- _____ , statistics regarding, value of 19,656-19,659.
- Sources of credit (129).
- Usurious Loans Act, should not be enforced (129), 19,814.

AGRICULTURAL INDUSTRIES :

- Co-operative rice mill, experiment with (133).
- Cultivators, number of days worked by (133).
- _____ , their attitude towards subsidiary industries (133).
- Government, should take steps to promote subsidiary industries (133).
- Industries for using agricultural produce (133).
- Inquiry into subsidiary industries, not needed (133), 19,835, 19,836.
- Jute spinning and weaving (133).
- Marketing of products, need for facilities for (133), 19,830.
- _____ , question of, does not arise when products consumed at home 19,831, 19,832.
- Rope-making (133).
- Spinning, advantages of (133).
- Tree-cotton growing and spinning (133), 19,458-19,462.
- Village improvement by spare-time labour, possibility of 19,833, 19,834

AGRICULTURAL LABOUR :

- Cultivable uncultivated lands, migration of labourers to, may be encouraged by grants of land on suitable terms (134).
- Seasonal migration of labour (134).
- Shortage of labour, seasonal (134).
- Unemployment in rural areas, is seasonal only (134).

ANIMAL HUSBANDRY :

- Animal nutrition, importance of investigating (133).
- Cattle in Bengal, bad condition of, partly due to fact land is easily tilled (132).
- Co-operative Milk Societies, success and work of (132).

INDEX.

MITRA, Rai Bahadur J. M.—*contd.*

ANIMAL HUSBANDRY—*contd.*

- Co-operative Milk Union, Calcutta, objects of 19,888, 19,891.
_____, success and work of (132).
Dairy industry (132).
Fodder, insufficiency of dry, due to cultivators selling their stock owing to high prices (133).
_____, green, period of scarcity of (133).
Grazing, poor through overstocking of common pastures (133).
Improvement of breeds, importance of 19,455.
Silage, need for investigation of 19,456, 19,457.

ATTRACTING CAPITAL :

- Land tenure system and Bengal Tenancy Act, react against investment of money in land improvement (136).
Large farms, will replace peasant proprietors and are undesirable (136).

CO-OPERATION :

- Adult education, success of co-operative night schools for (128), 19,395-19,400.
Assistant Registrars, work of 19,624, 19,625, 19,692-19,694.
Audit, of co-operative societies, carried out by inspectors 19,499-19,503.
_____, *See also* Inspectors.
_____, fees for, pay for audit staff 19,620.
_____, need for strengthening 19,465, 19,466.
_____, present system, better than audit by chartered accountant 19,855.
_____, one auditor for every 100 societies 19,626-19,628.
_____ of Provincial Bank 19,853-19,855.
Audit fund, control of 19,856-19,858.
Bengal Co-operative Organisation Society, constitution of 19,505, 19,506.
_____, need for encouraging (135).
Central Banks, capital of 19,682-19,685.
_____, meetings of, attended by members of primary societies 19,491-19,493.
_____, conducted in vernacular 19,482-19,487.
_____, number of 19,474.
_____, procedure of, in dealing with loan applications 19,722-19,730. *See also* Short-term loans.
_____, should be linked to money market through Provincial Bank (129).
_____, take the place of Supervising Unions in Bengal 19,470-19,473, 19,479-19,481.
Compulsion of obstinate minorities (136), 19,557, 19,558, 19,670-19,675, 19,964, 19,965.
Co-operative Department, co-operation of, with Agricultural Department 19,660-19,664, 19,765, 19,774, 19,775.
_____, with Education Department 19,804-19,809.
_____, with Irrigation Department 19,636-19,640, 19,966, 19,967.
_____, with Revenue Department 19,643-19,655.
_____, staff of, many belong to same class as members of primary societies 19,906, 19,907.
_____, requires strengthening (135), 19,465, 19,466.
_____, sent to other Provinces to study 19,850, 19,851.

INDEX.

MITRA, Rai Bahadur J. M.—contd.

Co-OPERATION—contd.

- Co-operative Milk Union, Calcutta, *see under* ANIMAL HUSBANDRY.
 Co-operative Movement, aims of (135).
 _____, educative value of, greater than economic value 19,494.
 _____, Government financial assistance for, 3 to 4 lakhs, 19,620-19,623.
 _____, has 12,000 societies in Bengal 19,739.
 _____, periods of surplus and stringency in 19,621-19,635.
 _____, principles of, teaching of, in schools 19,791-19,793.
 _____, understood by members of primary societies 19,848, 19,849.
 _____, propaganda through (128).
 _____, soundness of 19,641, 19,642, 19,695-19,699, 19,703-19,705.
 _____, spread of, will lighten agricultural indebtedness (130).
 _____, the only satisfactory way of financing agricultural operations (129).
 Credit societies, audit of, *see* Audit.
 _____, can give short and intermediate term loans (129).
 _____, defects of (135), 19,518-19,520, 19,718, 19,719, 19,908.
 _____, distribution of short-term credit by, method for (135), 19,519, 19,520.
 _____, expert advice for 19,469, 19,737, 19,738.
 _____, have reduced moneylenders' rates of interest (135), 19,496, 19,497.
 _____, interest charged and paid by 19,719, 19,720, 19,975-19,980.
 _____, management of 19,468, 19,733-19,736.
 _____, maximum credit for, fixing of 19,867-19,877.
 _____, procedure of, in dealing with loan applications 19,722-19,730, *see also* Short-term loans.
 _____, reserve funds of (*q.v.*).
 _____, secretaries for 19,885-19,887.
 _____, should be linked to Central Banks (129).
 _____, undertake education, arbitration and social welfare work 19,706-19,708.
 Disputes between co-operative organisations, settlement of 19,715-19,717.
 District officers, their help welcomed, but should not be given definite responsibilities towards co-operative movement 19,643-19,655.
 Educative value of co-operative movement, greater than economic value 19,494.
 Fertilisers, co-operative distribution of (131), 19,766-19,771.
 Government, role of, towards co-operative movement (135), 19,689.
 _____, *see also* Organisation of co-operation.
 Grain banks, have not been successful 19,751, 19,752.
 Home safes, *see* Savings deposits.
 Implement societies (132, 136), 19,913-19,916.
 Industrial societies, 19,776-19,778.
 Inspectors, for auditing co-operative societies, number of, 19,500.
 _____, pay and prospects of 19,501, 19,600-19,604.
 _____, training of 19,605-19,609, 19,842-19,847.
 _____, work of, efficient 19,502, 19,503.
 Inspectors, for propaganda and supervision 19,761-19,763.
 Irrigation societies, *see under* IRRIGATION.
 Joint farming societies (136).
 Jute sale societies, aim of, to eliminate middlemen 19,926, 19,927.

INDEX.

MITRA, Rai Bahadur J. M.—*contd.*

Co-operation—*contd.*

- Jute sale societies, 5 already working 19,924, 19,925.
 _____, capital of 19,536.
 _____, have established good reputation in Calcutta (135)
 _____, have sold 5 lakhs' worth of jute 19,925.
 _____, methods and work of 19,536-19,540, 19,986-19,992.
 _____, opposition to, from vested interests 19,928.
 _____, *see also* Sale societies.
 Land improvement, co-operative societies for (131).
 Land mortgage banks, *see under* FINANCE.
 Liquidation of societies, causes of 19,709, 19,710.
 _____, method of 19,711.
 _____, not a deterrent to spread of movement 19,712-19,714.
 Milk societies, *see under* ANIMAL HUSBANDRY.
 Minor irrigation works, their construction by co-operative effort, *see under* IRRIGATION.
 Non-credit societies, are independent of credit societies 19,747-19,750.
 _____, financing of 19,748, 19,749.
 _____, great demand for 19,743-19,746.
 Non-official agencies for promotion of co-operation, should be encouraged (135), 19,839-19,841.
 Organisation of co-operation in Bengal (135, 136), 19,465-19,478, 19,620-19,628, 19,856-19,858.
 Primary schools, financed by profits of co-operative societies, scheme for (128), 19,404, 19,794-19,803.
 Public health societies, are not on proper economic basis at present 19,547-19,556, 19,669.
 _____, conflict of, with Union Boards 19,548, 19,549, 19,665-19,668.
 _____, have been very useful (136), 19,543-19,547.
 _____, need for declaration of policy by Government regarding 19,547, 19,951-19,958.
 _____, possibility of replacing, by Union Boards 19,948-19,950.
 _____, registration of, has been stopped pending declaration of policy by Government 19,547, 19,943-19,947.
 Purchase societies, are doing useful work but should handle larger quantities (135).
 _____, difficulties of 19,909, 19,910.
 _____, may be combined with sale societies 19,534-19,542.
 Registration of societies, policy in regard to 20,006-20,010.
 Repayment of principal and interest, susceptible of improvement 19,686-19,688, 19,700-19,702.
 Reserve funds, built up from margin between borrowing and lending rate 19,731.
 _____, utilisation of 19,732, 19,859-19,866.
 Rice mill, experiment with co-operative (133).
 Sale societies, should also perform duties of supply societies 19,534-19,542.
 _____, successful but limited in number (135).
 _____, work of (135), 19,524-19,533, 19,583-19,589.
 _____, *see also* Jute sale societies.
 Savings deposits, accepted by co-operative societies 19,410.
 _____, in co-operative societies, will replace Post Office savings banks 19,410-19,414.
 _____, home safes for 19,410-19,412.
 _____, rate of interest on 19,676-19,678.
 Seed distribution, co-operative (131), 19,446-19,450, 19,892, 19,893.
 Short term loans, procedure for distributing, from cash credit account in central banks by cheque (135), 19,519, 19,520, 19,878-19,882.
 Women's societies 19,742.

INDEX.

MITRA, Rai Bahadur J. M.—*contd.*

CROPS AND CROP PROTECTION:

- Crop returns (134, 135).
- Cultivators, prefer crops which occupy land for short time only (128), 19,405.
- Gun licences, should be liberally granted to cultivators (131).
- Jute, area of, under improved and ordinary seed 19,563-19,569.
- , need for evolving variety fibre of which will suit Dundee and Indian market (131), 19,570-19,573.
- Monkeys, do great damage (131).
- , objections to destroying, gradually disappearing (131), 19,451-19,453.
- Seed distribution, by co-operative societies (131), 19,408, 19,409, 19,559, 19,560, 19,892, 19,893.
- , by private agency (131), 19,446-19,450.
- , delay a cause of difficulty 19,561, 19,562.
- , success of, primarily due to efficacy of seeds (128), 19,406, 19,407.

DEMONSTRATION AND PROPAGANDA:

- Co-operative societies and propaganda (128).
- Demonstrations, examples of success of (128).
- , on cultivators' own fields, suggested methods for (128).
- Lectures, value of (128).

EDUCATION:

- Adult education, female, no demand for 19,401-19,403.
- , may be popularised by means of night schools (128).
- , co-operative night schools for, classes at, 19,400.
- , success of (128).
- , teachers for, 19,395-19,399.
- , use of magic lanterns and cinemas for (128).
- Agricultural bias, should be given to all education (136).
- Agricultural education, usually sought with aim of Government service (128).
- Co-operative principles, teaching of, in schools, 19,791-19,793.
- Middle-class youths, lack of land a hindrance to their taking to agriculture (128).
- , make suitable officers for agricultural work, 19,610, 19,611.
- , salaries required to attract, 19,617-19,619.
- , training required, 19,612-19,616.
- Nature study, necessity for (128).
- Primary schools, financed by co-operative society profits, scheme for (128), 19,404, 19,794-19,803.
- Rural schools, should be administered by local bodies (128), 19,788-19,790.
- , too much attention should not be paid to buildings for (128).
- School plots or farms, should be attached to middle and high schools in rural areas (128).

FERTILISERS:

- Ammonium sulphate, value of (131).
- Adulteration, may be prevented by legislation (131).
- , and by co-operative distribution (131).
- Bonemeal, export of, should be prohibited (131), 19,772, 19,773.
- , high price of, due to export (131), 19,767-19,771.
- , value of (131).
- Co-operative distribution of fertilisers (131), 19,766-19,771.
- Cowdung, cannot be replaced as fuel unless a cheap substitute is provided (131).

INDEX.

MITRA, Rai Bahadur J. M.—*contd.*

FINANCE :

- Central Banks, *see under* Co-OPERATION.
Land mortgage banks, at Naogaon, work of 19,507-19,514.
_____, difficulties caused by Bengal Tenancy Act 19,515-19,517.
_____, need for co-operative, for long term loans (129).
Long term loans, should be provided by land mortgage banks (129).
Short term loans, procedure for distributing, by co-operative societies (135), 19,519, 19,520, 19,878-19,882.
_____, should be provided by co-operative societies (129).
Taccavi, no need for fuller use of (129), 19,521-19,523.
_____, only given in years of scarcity (129).

FORESTS :

- Afforestation as a remedy for soil erosion (131).
Forests in Bengal, confined to hill tracts (134).
Fuel, may be provided by planting uncultivable waste land near villages under management of Union Boards or co-operative societies (134).

HOLDINGS :

- Consolidation, co-operative (130), 19,415-19,417.
_____, need for investigating possibilities of (130).
_____, obstacles to (130).
Land tenure system, effect of, on consolidation (130).

IMPLEMENTS :

- Agricultural engineer to deal with implements, lack of, a handicap 19,917-19,920.
Co-operative implement societies (136), 19,913-19,916.
Foreign implement manufacturers, might utilise co-operative societies for distribution (132).
Improved implements, conditions for adoption (132).
_____, lack of suitable (132), 19,913-19,923.

IRRIGATION :

- Canal irrigation, scope for further (130).
Co-operative irrigation societies, aims of 19,959-19,963.
_____, can construct minor irrigation works (130), 19,418-19,441, 19,753-19,760.
_____, compulsion of obstinate minorities (136), 19,557, 19,558, 19,670-19,675, 19,964, 19,965.
_____, have been very successful (136).
_____, technical advice for 19,422-19,430, 19,574-19,577.
_____, technical advice for, by Irrigation Dept. unsatisfactory 19,636-19,640, 19,966, 19,967.
_____, technical advice for, should be provided by whole-time irrigation officer under Co-operative Dept. 19,968-19,972.
Distribution of canal water, suggestions for improving (130).
Irrigation, need for comprehensive policy of, in Western Bengal (131).
Minor irrigation works, co-operative construction of, *see* Co-operative irrigation societies.
_____, have fallen into decay in many places (130).
_____, increased fertility due to 19,440.
_____, progress made in, by co-operative effort (130), 19,418-19,441.
_____, scope for further (130), 19,418.
River system in Presidency division, need for controlling (131).

INDEX.

MITRA, Rai Bahadur J. M.—*contd.*

MARKETING :

- Cardamom, marketing of (138).
Communications, effect of, on markets (134).
Crop returns, are sometimes used to detriment of cultivators (134, 135).
_____ , should be made available to cultivators (134, 135).
Government certificates of purity and packing, valuable for export trade (134).
Information on market conditions, should be made readily available to cultivators (134).
_____, showing possible demand for agricultural produce, need for (135).
Jute, marketing of, note on (*Appendix*) (137, 138).
_____, middlemen employed in, methods, charges and numbers of (137), 19,929-19,942, 19,995-19,999.
_____, need for evolving variety fibre of which will suit both Dundee and India (131), 19,570-19,573.
_____, number of bales of, sold 19,936-19,941.
_____, producers of, get only three-quarters proper price owing to intervention of middlemen 19,929-19,942.
_____, sale societies for, *see under* Co-OPERATION.
Marketing of products of subsidiary industries, need for facilities for (133), 19,830-19,832.
Methods of marketing, note on (*Appendix*) (137, 138).
_____, unsatisfactory (134).
Middlemen, *see* Jute, marketing of.
Paddy, marketing of (137).
Sale societies, *see under* Co-OPERATION.
Tobacco, marketing of (138).
Turmeric, marketing of (138).
Vegetables, marketing of (138).
Weights and measures, variations of, enable large profits to be made by middlemen (138).

RESEARCH :

- All-India Research Board, need for, to co-ordinate agricultural and veterinary research (127), 19,781-19,783.
Financing of research, by small export cess (127), 19,783-19,787.
Indigenous methods of agriculture, need for studying (127).
Provinces, must have complete scientific staff of their own (127, 128).
Subjects suggested for research (127).

SOILS :

- Drainage in Burdwan division, special features of and suggestions for improving (131).
Embankments to prevent ingress of salt water, investigation of, needed (131).
_____, co-operative societies for (131).
_____, need for (130, 131).
_____, obstacles to construction of (130, 131), 19,442-19,445.
Erosion, might be prevented by afforestation (131).
Soil survey, need for (128).

STATISTICS :

- Crop returns (134, 135).

TARIFFS :

- Export cess for financing of research (127), 19,783-19,787.

INDEX.

MITRA, Rai Bahadur J. M.—*contd.*

VETERINARY :

- Cattle insurance societies (132).
- Contagious diseases, legislation to control (132).
- Dispensaries (132).
- Indigenous medicines, should be investigated (132).
- Inoculation, efficacy of, doubted by cultivators (132).
- , fee for, acts as deterrent (132).
- Veterinary Department, should not be under Director of Agriculture (132).
- , too understaffed to be efficient (128).

WELFARE :

- Diet, need for research on (128).
- Economic surveys of typical villages, conducting of (136).
- , value of (136).
- Public health societies, *see under* Co-OPERATION.
- Water supply, importance of pure (136).

MOMEN, K. B. M.A., Magistrate Collector (on leave), late officiating Director of Land Records and Surveys (319-330), 22,093-22,444.

ADMINISTRATION :

- Agricultural Department, need for increasing subordinate staff of (322), 22,419, 22,428, 22,429.
- , out of touch with cultivators and unpopular (322), 22,193-22,204, 22,428.
- , top heavy (322), 22,329-22,337, 22,417, 22,418
- , understaffed and not properly financed (321).
- All-India Agricultural Service, unnecessary (321).
- Central All-India scientific organisation for agriculture, unnecessary (321), 22,104.
- Circle officers, might act as secretaries of Union Boards 22,442.
- Co-operation between Provinces in agricultural matters (321).
- Deputy Directors of Agriculture, out of touch with cultivators (322), 22,319-22,322.
- District Agricultural Officers, do not take sufficient interest in their work (321), 22,318.
- , relations of, with Collectors 22,221-22,225.
- , should ascertain requirements of cultivators and report to Collectors and Director of Agriculture (319).
- , should have more freedom of action (319), 22,410-22,412.
- , work of (322), 22,220.
- District Boards, Chairmen of, non-official less satisfactory than official 22,117-22,125, 22,392-22,397, 22,438.
- , committees of 22,127-22,129.
- , inspection of 22,140-22,142.
- , members of 22,126-22,131.
- , relations of, with Government officers 22,398-22,400.
- , Secretaries of, need for paid 22,123, 22,124, 22,133, 22,135-22,139, 22,439-22,441.
- , Circle officers for 22,442.
- Meteorological Department, of no assistance to cultivators (322).
- Motors, effect of, on roads 22,105-22,107.
- , taxation of 22,108-22,116.
- Roads, effect of motor traffic on, *see* Motors.
- , under District Boards, deteriorating 22,117, 22,118.
- Union Boards, can do great deal to improve condition of agriculturists (319), 22,212-22,214.
- , should receive more help from Collectors (319), 22,215-22,218.

INDEX.

MOMEN, K. B.—*contd.*

AGRICULTURAL INDEBTEDNESS :

- Causes of borrowing (323).
- Co-operative societies, the only means of lightening rural debt (323).
- Credit as a cause of debt 22,279-22,287.
- Cultivators, alleged improvidence of (323).
- , income of (323, 328), 22,404-22,406.
- , poverty of (323, 328), 22,271-22,297.
- , percentages in and below comfort and above and in want (328), 22,403.
- , prosperity of, is declining 22,346-22,358, 22,434-22,437.
- , through indebtedness are becoming landless labourers (328), 22,294, 22,295.
- Economic survey in Jessore, in 1920-4 (328-330), 22,242-22,247.
- Mortgage and sale, right of, should not be limited (323).
- Usurious Loans Act, of no assistance (323), 22,294, 22,295.

AGRICULTURAL INDUSTRIES :

- Cultivators, subsidiary industries adopted by 22,176-22,180.
- Factories in rural areas, establishment of, hindered by bad communications (327).
- , should be started or subsidised by Government (327).
- Government, role of, in regard to subsidiary industries (326, 327), 22,369-22,374.
- Suggestions for subsidiary industries (326).

AGRICULTURAL LABOUR :

- Publicity to assist migration (327).
- Waste land, availability of, in various districts 22,154-22,161.
- , method of obtaining, by ryots 22,162-22,172.

ANIMAL HUSBANDRY :

- Agricultural Department, has neglected animal husbandry 22,192.
- Bulls, value of supplying good, to agriculturists (325).
- Cattle, proper care for and feeding of, rare in Bengal (325).
- Common pastures, lack of (326).
- , overstocked (326).
- Co-operative animal husbandry societies, scope for 22,193.
- Dairying industry, almost unknown in Bengal (326).
- , should be taught by Agricultural Department (326).
- Fodder crops, need for propoganda for growing of (325).
- , not grown in Bengal (325).
- , one-tenth of holdings should be reserved for (326).
- , shortage of (326).

ATTRACTING CAPITAL :

- Reasons preventing men of capital from taking to agriculture (327).
- Renting of land, pays better than farming (327).

CO-OPERATION :

- Caste difficulties in connection with membership of societies, non-existent 22,187-22,190.
- Central Bank, need for, in each Union 22,182, 22,183.
- Compulsion of obstinate minorities, need for (327).
- Co-operative Department, of great value and should receive more help than at present (319).
- Non-credit societies, developing 22,181.

CROPS :

- Improvement of existing crops, little scope for (325), 22,288-22,291.
- New crops, introduction of, important (325).
- Seed growing, and distribution, should be one of the chief activities of Government farms (325).
- , can be made profitable (325).

INDEX.

MOMEN, K. B.—*contd.*

DEMONSTRATION AND PROPAGANDA :

- Agricultural Department, not in touch with cultivators, *see under* ADMINISTRATION.
- Cultivators, conservatism of (321), 22,099-22,100, 22,430-22,432.
- , will adopt expert advice if easily available (321).
- Demonstration farms, at present run at a loss (322), 22,323-22,328, 22,426, 22,427.
- , need for one in each sub-division (320, 322), 22,194.
- Demonstrations on cultivator's own fields, necessary 22,194.
- Demonstrators, difficulties of 22,095-22,098.
- , importance of personality of (321).
- , increased number required 22,195-22,197.
- , qualifications, training and pay of 22,420-22,425.
- Deputy Directors of Agriculture, *see under* ADMINISTRATION.
- District Agricultural Officers, *see under* ADMINISTRATION.

EDUCATION :

- Agricultural college, need for (320).
- Agricultural education in rural schools, unnecessary (319).
- Agricultural textbooks for rural schools (320).
- Government service, the inducement to take agricultural and other education (320).
- Middle-class youths, will be attracted to agriculture by proof that it will pay (321).
- School farms, preferable to plots (320).
- , value of (320).
- Teachers, Preference need not be given to agricultural classes (320), 22,413-22,416.

FERTILISERS :

- Cowdung, not largely used for fuel in Bengal (325).

FINANCE :

- Agricultural and Sanitary Improvements Act, too cumbrous (325).
- Compulsory thrift 22,261-22,263.
- Credit societies, the best means of financing cultivators (322).
- District Land Improvement Fund, need for (322).
- Land Improvements Act, difficulty of taking loans under 22,239-22,241.
- Taccavi, conditions under which it might be given (323), 22,264-22,266.
- , inelastic and unpopular (323).
- , joint liability system for, should be abolished (323).

HOLDINGS :

- Average holdings in Jessore, size of 22,143-22,146, 22,249-22,254, 22,303.
- Consolidation, impracticable owing to number of persons interested in land 22,147-22,152, 22,304-22,306, 22,378-22,389.
- , effect of permanent settlement on 22,365, 22,366.

IRRIGATION :

- Co-operative irrigation societies, need for (324).
- , should be financed by Government (324).
- Irrigation, and drainage, importance of, in Bengal (324), 22,153.
- , scope for 22,407-22,409.
- Tanks, silting up of, owing to lack of interest of landlords and poverty of tenants (324).
- Well irrigation, unsuitable for Bengal (324), 22,367, 22,368.

RESEARCH :

- District Agricultural Officers, should carry out research (319).
- Provinces, must carry out research (319).

INDEX.

MOMEN, K. B.—*contd.*

SOILS :

- Floods, can be prevented by system of embankments, which should be erected by Government (325).
- , do great damage in Burdwan division (325).
- Productivity of land, has declined 22,362-22,364.
- Waterlogging, damage done by (325).
- , reclamation of land affected by, should be undertaken by Government (325).

VETERINARY :

- Serum, not supplied promptly or in sufficient quantities (325).
- Veterinary Department, is understaffed (321).
- , should be under Director of Agriculture (325).

WELFARE :

- Economic surveys of villages, elaborate, unnecessary (328).
- , particulars of survey in Jessore district, *see under* AGRICULTURAL INDEBTEDNESS.
- Education, a pre-requisite of economic and sanitary improvement (327).
- Settlement reports, value of (319).

MORGAN, Mr. G., M.L.C., Proprietor; Morgan, Walker & Co. (272-274) 21,460-21,807.

ADMINISTRATION :

- Central organisation for agriculture, should act as co-ordinating body (272), 21,463-21,465, 21,660.
- Conferences of research workers, would be useful 21,663.
- Government of India, scientific staff with, need not be increased (272).
- Meteorological information, dissemination of 21,664-21,667.
- Provinces, should have complete scientific staff of their own (272).
- , co-operation between 21,661, 21,662.
- Railway Advisory Committee, constitution of 21,467-21,469.
- , does not hear complaints from actual growers 21,470.
- Railways, are apt to starve stations where there is no steamer competition (272), 21,466.
- , but on the whole give satisfactory service 21,471, 21,474.
- Transport of jute, difficulties of, co-operative societies to solve 21,755, 21,756.
- , give rise to number of middlemen 21,753.
- , improvement of 21,754.
- , rates for 21,791, 21,792.
- Wagons, supply of, for jute traffic 21,472-21,474.
- Waterways, use of, for transport of jute 21,607-21,614, 21,640-21,643.

AGRICULTURAL INDEBTEDNESS :

- Capital, its investment in moneylending rather than agricultural improvement 21,730-21,736.
- Causes of indebtedness (272).
- Low price of produce when there is over-production, a cause preventing repayment (272).
- Sources of credit (272).

AGRICULTURAL INDUSTRIES :

- Cultivators, work done by, during different periods of the year (273).
- Horticulture and fruit growing, work on, by Agricultural Society of India 21,803-21,807.
- Industrial concerns, cannot move to rural areas as they require whole-time skilled labour (273).
- Unemployment, does not exist in rural areas (273).

INDEX.

MORGAN, Mr. G.—*contd.*

ANIMAL HUSBANDRY:

Condition of country in rains and cost of feeding, prevent the keeping of good cattle (273).

Fodder, hardly grown at all at present 21,668.

——, might be grown with manuring and irrigation (273), 21,668.

ATTRACTING CAPITAL:

Capital, its investment in moneylending rather than agricultural improvement 21,730-21,736.

Joint ownership, makes co-operation for land improvement impossible (274), 21,735, 21,736.

CO-OPERATION:

Co-operative jute societies, *see under* MARKETING.

Government supervision and audit of co-operative societies will always be necessary (273).

Non-official agencies, will not command confidence.

CROPS:

Crop forecasts, *see under* MARKETING.

Jute, improved variety of, commands a premium 21,747-21,751.

——, has tendency to revert 21,669-21,672.

——, mixed with ordinary varieties at mills 21,677, 21,678, 21,745-21,749.

——, more suitable for Calcutta mills than export 21,679.

——, water requirements of 21,572-21,578.

——, yield of, per acre 21,680-21,682.

——, if increased, will bring down prices 21,787, 21,740-21,743.

——, *see also under* MARKETING.

Retting, difficulties of 21,683.

Seed, distribution of improved, through co-operative societies (273).

——, importance of testing 21,669, 21,670.

EDUCATION:

Higher education, unsettles boys for the land (273).

FERTILISERS:

Adulteration, prevalent and difficult to detect (272).

Cowdung as fuel, should not be discouraged unless very cheap substitute available (272).

Jute land, does not require fertilising when covered by silt 21,479, 21,480, 21,649-21,654.

——, more than half of, is covered by silt 21,649.

FINANCE:

Co-operative movement, the best means of financing agricultural operations (272).

Finance, need for provision of easy, for jute cultivators 21,799-21,801.

Land mortgage banks (co-operative) to enable mortgages to be paid off, need for (272).

Taccavi, abuses in distribution of 21,475-21,477.

MARKETING:

Adulteration of jute, 21,707.

Aratdars, function of 21,486-21,488, 21,503, 21,504, 21,628, 21,632.

Beparis, do not as a rule engage in moneylending 21,490.

——, function of 21,482-21,485, 21,626.

Calcutta Jute Dealers' Association, amount of trade controlled by 21,635-21,638.

——, composition and functions of 21,586-21,593.

Chain of marketing from cultivators onwards 21,481-21,485, 21,581-21,583, 21,626-21,631, 21,693-21,695, 21,700-21,705.

INDEX.

MORGAN, Mr. G.—*contd.*

MARKETING—*contd.*

- Consumption of jute, stable 21,618-21,620, 21,737-21,742.
 Co-operative jute societies, great possibilities of 21,505, 21,506, 21,658, 21,659.
 _____, hire their own godowns 21,508, 21,509.
 _____, spreading 21,726-21,729.
 _____, trading risk of, borne by members 21,514-21,516.
 _____, will arrange their own transport and take jute to final market 21,507, 21,511-21,513, 21,758.
 Cultivators, are fully informed of market conditions (273), 21,497, 21,498, 21,644-21,646, 21,714-21,718, 21,761-21,764.
 _____, do not sell direct to large jute firms 21,499, 21,500, 21,579, 21,580.
 _____, financing of 21,489.
 _____, making jute forecasts known to, *see* Jute forecasts.
 _____, not in a position to hold up their jute, whatever information they receive 21,722, 21,723.
 _____, price received by, governed chiefly by supply and demand 21,493-21,496.
 Farias, function of 21,482-21,485, 21,696-21,706, 21,753.
 Fluctuations in price of jute, publishing of 21,555-21,558.
 _____, sometimes violent 21,529, 21,554, 21,647.
 Improved varieties of jute, are mixed with ordinary varieties at mills 21,677, 21,678, 21,745-21,749.
 _____, command a premium 21,747-21,751.
 _____, if resulting in increased yield, would lower the price 21,787, 21,740-21,743.
 _____, more suitable for Calcutta mills than for export 21,679.
 Jute, 55 lakhs of bales consumed in Indian mills and 35 exported 21,564, 21,711, 21,712.
 _____, finished product, chiefly exported 21,566-21,568.
 _____, 4 grades of, recognised by trade 21,794.
 _____, basis of grading 21,802.
 Jute brokers 21,547-21,551.
 Jute forecasts, accuracy of 21,621-21,625.
 _____, assistance of, to millowners 21,725.
 _____, to speculators 21,724.
 _____, effect of, on cultivators 21,690, 21,691.
 _____, should be made known to cultivators 21,519-21,526, 21,765-21,777.
 _____, time of issue of 21,687.
 Middlemen, margins on which they operate 21,501, 21,502, 21,594-21,600, 21,655-21,657, 21,758-21,760.
 _____, possibility of eliminating 21,752-21,754.
 _____, transport difficulties a cause of large numbers of 21,753.
 Moneylenders, have lien on crop if they advance money against it 21,491-21,494.
 Paikars, *see* Farias.
 Pressing of jute, done at godowns 21,504, 21,509, 21,510, 21,584.
 Quality of jute required for Dundee and Calcutta mills 21,675-21,677.
 Regulation of quantity of jute produced through better dissemination of market intelligence 21,713.
 Speculation in jute, 21,528, 21,604-21,606.
 _____, Bill to prevent, withdrawn 21,797, 21,798.
 Stable supply of jute, desirability of 21,526.
 _____, lack of, harm done by 21,519, 21,526, 21,618-21,620.
 _____, lack of, more pronounced than formerly 21,527-21,529.
 Substitutes for jute, not a serious menace 21,684-21,686.
 Weights and measures, standardisation of 21,710.
 _____, variations in 21,708, 21,709.

INDEX.

MORGAN, Mr. G.—contd.

SOILS :

- Jute land, large proportion of, is covered with silt and does not require fertilisers 21,479, 21,480, 21,649-21,654.
- , is not deteriorating 21,615-21,617.
- Soil analyses, necessity for 21,669.

STATISTICS :

- Cadastral survey, necessary to secure accurate agricultural statistics (274), 21,623-21,625.
- Crop returns, fairly accurate 21,621, 21,622.
- Jute forecasts, *see under* **MARKETING**.

TARIFFS :

- Jute cess, amount of 21,781-21,785.
- , possibility of increasing 21,784.

WELFARE :

- Economic surveys of villages, desirable 21,518.
- Malaria, not necessarily associated with jute cultivation 21,788-21,790.
- Sanitary conditions in up-country towns, good 21,530-21,532.
- Sweepers, in towns, mainly come from outside Bengal 21,533-21,539.
- , not found in villages 21,540.
- Water supply, tanks for 21,517, 21,518.

MUKHERJEE, Babu N. N., Secretary, Ranaghat Central Co-operative Bank (176-181), 20,076-20,606.

ADMINISTRATION :

- Agricultural Department, subordinate staff of, requires increasing (177), 20,077-20,080, 20,226-20,233.
- District Boards, revenue of 20,146-20,155, 20,177-20,185, 20,212-20,215.
- Roads, bridging of 20,186-20,190.
- , improvement of, will have good effect on agricultural, economic and sanitary conditions (177, 181), 20,109-20,118.
- , financing of, by means of tolls (181), 20,118-20,133, 20,309-20,315, 20,529-20,532.
- , must go hand in hand with improvement or education 20,117.
- Rural development, financing of 20,118-20,155, 20,177-20,185, 20,212-20,215, 20,309-20,315, 20,318-20,326, 20,400-20,405, 20,529-20,532, 20,545-20,576.

AGRICULTURAL INDEBTEDNESS :

- Agricultural income of Bengal, is decreasing 20,540-20,544.
- Availability of money, not a cause of borrowing 20,504-20,507.
- Causes of borrowing (177).
- Control of credit of cultivators, undesirable (177).
- Dishonest accounting by moneylenders, not common 20,508, 20,509.
- Farming, difficulty of making money by (176), 20,246-20,252, 20,344-20,373 (*on farm owned by witness*).
- Litigation as a cause of debt (177), 20,446-20,450.
- Medical charges as a cause of debt (177), 20,279-20,282.
- Reasons preventing repayment (177).
- Rural indebtedness, special measures for, unnecessary (177).

AGRICULTURAL INDUSTRIES :

- Cultivators, need for instruction of, in subsidiary industries (179).
- , number of days worked by, about 300 a year (179), 20,470-20,472.
- Industries on co-operative or joint-stock basis should be established in rural areas (179).
- Obstacles to subsidiary industries (179).

INDEX.

MUKHERJEE, Babu N. N.—*contd.*

AGRICULTURAL LABOUR :

Cultivable uncultivated land, suggestions for colonising (180).
Shortage of labour, due to prevalence of malaria (180).
Wage rates for labourers 20,586-20,595.

ANIMAL HUSBANDRY :

Cattle-breeding, difficult owing to lack of pastures 20,391-20,399.
Co-operative agricultural and dairy farm at Ranaghat, scheme for (179),
20,334-20,337, 20,464-20,469, 20,380-20,382.
Dairy industry, can be improved by co-operative methods (179).
Improvement of cattle, by castration of inferior animals (179).
_____, by growing of fodder crops (179).
_____, by prohibition of slaughter of prime and dry
cows (179), 20,257-20,260.
Zamindars, should be compelled to set aside land for grazing (179),
20,294-20,299.

ATTRACTING CAPITAL :

Farming, difficulty of making money by, *see under* AGRICULTURAL
INDEBTEDNESS.
Government, might guarantee interest on capital to encourage capitalists
to take to agriculture (180).
Tenancy Act, prevents investment of money in land improvement (180),
20,301-20,308.

CO-OPERATION :

Bengal Co-operative Organisation Society, State aid for (180), 20,473-
20,476.
Central Bank, Ranaghat, capital of 20,418-20,420.
_____, deposits in, 20,421-20,427.
_____, have to be refused on account
of surplus 20,426.
_____, directors of 20,430-20,432.
_____, meetings of, are attended by members of
primary societies 20,521-20,524.
_____, conducted in vernacular 20,525-
20,527.
_____, primary societies under 20,428, 20,429.
Central Banks, use of, for seed distribution (178).
Consolidation, co-operative (177).
Co-operative agricultural and dairy farm at Ranaghat, scheme for
(179), 20,334-20,337, 20,464-20,469, 20,380-20,382.
Co-operative Department, staff of, should be increased (180).
Credit societies, interest charged by 20,451-20,453.
_____, use of, for seed distribution (178).
Government, role of, towards co-operative movement (180), 20,485.
Legislative Council, seats on, should be allotted to representatives of
co-operative movement (180).
Non-credit societies, value of (180).
Seed and manure stores, co-operative, value of (178).
_____, one should be provided for each
Union Board area (178).

CROPS :

Central banks and primary societies, use of, for seed distribution (178).
Co-operative seed and manure stores, value of (178).
_____, one should be provided for each
Union Board area (178).
Improvement of existing crops, factors for (178).
Jute, increased yield due to introduction of improved 20,156-20,165.
New crops, introduction of (178), 20,383-20,388.
Potato cultivation, extending 20,387, 20,388.
Seed distribution, co-operative (178).
_____, need for care in, since failure shakes faith of
cultivators (178).

INDEX.

MUKHERJEE, Babu N. N.—*contd.*

Crops—*contd.*

- Seed distribution, of *charanak* paddy, failed in 1925 (177), 20,081-20,089, 20,166-20,174.
 _____, of jute, partially failed in 1926 20,328-20,333, 20,410-20,417.

CULTIVATION :

- Hiring out of improved implements, would improve cultivation (178).

DEMONSTRATION AND PROPAGANDA :

- Cultivators, conservatism of, due to ignorance and illiteracy (177), 20,443-20,445.
 Demonstrations, conditions for success of (176, 177).
 _____, examples of success of (177).
 _____, of scientific methods of production and conversion of raw material into finished products, need for (176), 20,374-20,379.
 _____, on cultivators' own holdings, with guarantee against loss 20,406-20,409.
 Demonstrators, importance of increasing number of 20,077-20,080.
 _____, one needed for each thana 20,226-20,233.
 _____, training necessary for 20,234-20,245, 20,600-20,606.
 Middle-class youths, suggestions for interesting, in agriculture, see under EDUCATION.
 Union Board secretaries, might act as demonstrators 20,327.

EDUCATION :

- Adult education, need for night schools for (176), 20,500, 20,501.
 Agricultural education, generally sought with view of Government service (176).
 _____, lack of facilities for (176), 20,339-20,342.
 _____, need for practical (176).
 Compulsory primary education, need for (180).
 _____, not introduced for financial reasons 20,134-20,145, 20,153-20,155.
 Education, method of financing 20,145-20,155, 20,321, 20,322, 20,567-20,570.
 _____, the panacea for most evils (181).
 Middle-class youths, agricultural ventures by, have failed (176), 20,441, 20,442.
 _____, can be interested in agriculture by proof that it will pay (176), 20,340-20,348, 20,366-20,373.
 _____, other suggestions for interesting (176), 20,374-20,379.
 Night schools, see Adult education.
 Teachers in rural areas, cannot at present be drawn from agricultural classes (176).

FERTILISERS :

- Co-operative seed and manure stores, value of (178).
 _____, one should be provided for each Union Board area (178).
 Cowdung as fuel, use of, may be checked by offering high price for (178), 20,253, 20,254.
 _____, and by making other fuels available more cheaply (178), 20,577-20,580.
 Cultivators, methods of encouraging, to use fertilisers (178).

FINANCE :

- Agricultural and Industrial Banks, need for establishing 20,486-20,499.
 Agricultural and Sanitary Improvements Act, complexity of, hinders use (177), 20,283-20,288.
 Land mortgage banks, should be established with liberal financial help from Government (177).
 Long term loans, provisions of Bengal Tenancy Act an obstacle to (177).
 _____, should be provided by land mortgage banks (177).
 Short term loans, should be provided by co-operative societies (177).

INDEX.

MUKHERJEE, Babu N. N.—contd.

HOLDINGS :

- Consolidation, difficulties of (177).
- _____ , value of skilled propagandæ for 20,513-20,515.
- Co-operative consolidation societies, need for (177).
- Legislation, should be avoided if possible (177).
- Union Boards, should have authority to make consolidations binding for several years with consent of majority (177), 20,090-20,098.

IMPLEMENTS :

- Demonstrations of improved implements, need for (178).
- Depots for improved implements, need for (178).
- Hiring of improved implements, value of (178).

IRRIGATION :

- Scope for irrigation (177).

MARKETING :

- Information on market conditions, should be afforded to jute cultivators (181), 20,104-20,108.

VETERINARY :

- Contagious diseases, obstacles to dealing with (178, 179).
- Dispensaries (178).
- Inoculation, obstacles to popularising (179).
- Serum, free supply of, necessary (179).
- Veterinary Department, should be under Director of Agriculture (178), 20,099-20,103.

WELFARE :

- Drinking water, at present obtained from tanks and wells 20,193, 20,194.
- _____ , importance of pure (181).
- _____ , precautions taken to ensure purity 20,195-20,206.
- Malaria, prevalence of, leads to shortage of labour (180).
- Medical and educational facilities, lack of, and bad communications, responsible for drift to towns (181).
- Rural development, financing of, *see under ADMINISTRATION*.
- Sanitary conditions in rural areas, improvement of (181).
- _____ , money spent by District Boards on improvement of 20,209-20,211.

MULLICK, R. B. K. N., Ranaghat (349-352), 22445-22672.

ADMINISTRATION :

- Board of Agriculture, Bengal, not yet functioning 22,508-22,515.
- Central institution for research, need for (349, 350).
- Meteorological information, summaries of, might be published in rural areas (350).
- Railways and steamers, should give better facilities for agricultural produce and provide cold storage (350).
- Roads, need for improvement of (350).
- Scientific staff of Government of India, should be increased (350).

AGRICULTURAL INDEBTEDNESS :

- Causes of indebtedness (350).
- Moneylenders, the chief source of credit (350).
- Occupancy rights of cultivators 22,503-22,507.
- Reasons preventing repayment (350).
- Standard of living, increase in, harmful because due to borrowing (350), 22,619-22,621a.

AGRICULTURAL INDUSTRIES :

- Cottage industries, cannot be reorganised on bigger scale (351), 22,465, 22,466.
- Cultivators, are confined to bed for 60 to 90 days a year through illness (351), 22,457-22,461, 22,483, 22,484.
- Future of spare-time industries, doubtful owing to industrial competition (351), 22,462-22,464.
- Industrialisation of rural areas, undesirable (351).
- Spinning and weaving 22,470-22,482.

INDEX.

MULLICK, R. B. K. N.—*contd.*

AGRICULTURAL LABOUR.

Migration of labour, local 22,485-22,495.

Shortage of labour, sometimes due to malaria (352).

—————, usually temporary and due to migration (352), 22,467.

ANIMAL HUSBANDRY :

Cows in Bengal, sometimes too small to allow good bulls to be used 22,658-22,660.

Fodder crops, importance of demonstrations to secure growing of 22,664, 22,665.

—————, not generally grown 22,653.

Silos, construction of 22,668-22,672.

ATTRACTING CAPITAL :

Agriculture, will attract capital if found to be paying (352).

CO-OPERATION :

Compulsion of obstinate minorities, undesirable and should be avoided by compensation (352), 22,468, 22,469.

Non-credit societies, need for developing (352).

CROPS :

Cost of cultivation and return from sugarcane and paddy (363, 364), 22,627-22,633.

Gun licences, should be granted more freely (351).

Hybridisation, possibilities of, not yet explored (351).

Seed distribution, when seed comes from department, satisfactory; when from middlemen contains admixture of inferior seed 22,519, 22,520.

—————, need for better organisation of (351).

Sugarcane cultivation, handicaps to extension of 22,610.

—————, more profitable than jute or paddy 22,606-22,609.

CULTIVATION :

Present methods of cultivation, the result of centuries of experience and investigation (351).

Rotations 22,576-22,578.

DEMONSTRATION AND PROPAGANDA :

Cultivators, will adopt expert advice if given more energetically than at present (349).

Demonstration farm, need for small commercial, near Calcutta, to demonstrate that agriculture can be made to pay 22,641-22,646.

Demonstrations in Ranaghat district 22,546-22,574, 22,581.

Demonstrations on cultivators' own holdings, should be with guarantee against loss (349).

EDUCATION :

Agricultural education, demand for, depends on agriculture becoming profitable 22,542, 22,543.

Agricultural students, may be encouraged by grants of khas lands and loans (349), 22,446-22,451.

Chinsura agricultural school, failure of, due to apathy 22,538-22,542.

Middle class youths, may take to agriculture with Government help 22,495-22,499.

School farms and plots, valuable (349).

FERTILISERS :

Cowdung, difficult to stop use as fuel (351).

—————, insufficient available for fertiliser (350).

Green manuring (351).

Organic manures, need for increased use of (351).

Soil in Bengal, requires more organic matter (350).

INDEX.

MULLICK, R. B. K. N.—*contd.*

FINANCE:

Taccavi, amount available of, insignificant compared with vastness of country (350), 22,452, 22,453.

HOLDINGS:

Consolidation, of doubtful value as tending to extinguish peasant proprietor class (350), 22,622-22,626, 22,634.

Litigation, artificial checks to, undesirable (350).

Occupancy rights of cultivators 22,503-22,507.

IMPLEMENTS:

Foreign implements, of no value in Bengal (351).

Loans for purchase of machinery, may be useful (351).

Tractors, replacement of bullocks by 22,649-22,651.
_____, scope for 22,651.

IRRIGATION:

Irrigation schemes, scope for and obstacles to (350).

_____, demand for, increasing 22,454-22,456.

MARKETING:

Market and crop statistics, in Bengal, are inaccurate and should be corrected or stopped (352).

_____, of little service to cultivators (352).

Middlemen, cause undue disturbance in crop market (352).

RESEARCH:

Fodder, need for research on (349).

Water requirements of crops, need for research on (349).

SOILS:

Soil in Bengal, requires more organic matter (350).

STATISTICS:

Agricultural statistics, need for improvement of (352).

Foreign demands for Indian raw material, publication of (352).

JATEN, Mr. E. F., M.A., I.E.S., M.L.C., Director of Public Instruction (452-454), (469, 470), 23,443-23,652.

EDUCATION:

Adult education, female, *see* Female education.

_____, hindered by lack of money 23,465.

_____, importance of 23,464.

_____, note on (*Appendix*) (469, 470).

_____, value of, for preventing lapse into illiteracy of children 23,466-23,469.

Agricultural bias in education, not incompatible with attainment of literacy 23,446, 23,447.

Agricultural graduates, lack of openings for 23,470-23,473, 23,556.

Calcutta University Commission, proposals of, for higher agricultural education (453, 454).

Child labour, demand for, a hindrance to education (454), 23,536, 23,537.

_____, may be met by adjustment of school hours 23,538-23,540.

Compulsory primary education in rural areas, cess for 23,510-23,513, 23,557-23,559, 23,601, 23,608, 23,609.

_____, demand for 23,509, 23,510, 23,572.

_____, legislation for, scope of and finance available, 23,478, 23,479, 23,497-23,504.

INDEX.

OATEN, Mr. E. F.—*contd.*

Education—*contd.*

- Compulsory primary education in rural areas, premature withdrawal of children under, means waste of public money 23,480-23,482.
- _____, suggestion for contracting - in by parents 23,483-23,486, 23,619.
- Co-operative Department, co-operation with, in education matters 23,620-23,622.
- District school committees, Government grants for 23,639-23,643.
- _____, staff and functions for 23,579-23,589.
- Educational advancement, essential for agricultural improvement 23,445.
- Educational survey of Bengal, need for 23,575-23,577.
- Examination at end of primary course, to prevent children leaving earlier, need for (454), 23,632-23,634.
- Expenditure on education, figures for 23,497-23,504, 23,604-23,607.
- _____, in Bengal, compared with other Provinces 23,560, 23,561.
- _____, on higher education, cannot be diverted to primary 23,552.
- _____, on higher education, disproportionately high 23,506-23,509, 23,548-23,551.
- Female education, adult 23,545, 23,547.
- _____, compulsory 23,565.
- _____, difficulties and importance of 23,460, 23,546.
- _____, inspectresses for 23,493-23,496.
- _____, lack of demand for 23,543-23,545.
- _____, teachers for 23,461-23,463.
- Guru training schools, 23,595-23,597.
- _____, pupils at, might be taken over by Government farms 23,649-23,652.
- _____, numbers of 23,487-23,489.
- Higher education system in Bengal, unrelated to rural economy (454).
- Inspecting staff, for female education, *see* Female education.
- _____, not selected from agricultural classes 23,615, 23,616.
- _____, qualifications of 23,598.
- _____, should have some acquaintance with agriculture (454).
- Literacy, lapse from, owing to lack of reading matter 23,524-23,526.
- _____, tendency of, to unsettle boys for the land 23,532-23,535.
- _____, the primary aim of education 23,446.
- _____, value of, to agriculture 23,527-23,531.
- Moga type schools, value of 23,624-23,627.
- Nature study, instruction of teachers in 23,451, 23,452.
- _____, teaching of, a special art 23,449, 23,450.
- _____, value of (454).
- Normal schools, numbers of 23,487-23,489, 23,491.
- Primary education, adequate finance for, the first essential (452).
- _____, will be well repaid (452), 23,519, 23,520.
- _____, concentration of, in fewer schools 23,568, 23,573, 23,574.
- _____, curricula (452), 23,599, 23,600.
- _____, grants in aid for, system of, defective 23,592-23,594.
- _____, need for efficient (453).
- _____, objection of upper classes to 23,555.
- _____, pupils at, figures showing numbers leaving before completing education (454).
- _____, less than 5 per cent. of, attain literacy 23,521-23,523, 23,616-23,618.
- _____, system for, lack of (452).
- _____, *see also* Expenditure on education.

INDEX.

OATEN, Mr. E. F.—*contd.*

EDUCATION—*contd.*

- Rural economics, degree in, should be given at Universities 23,492.
 _____, training in, not given to teachers 23,623.
 School farms, expense of, generally prohibitive 23,455.
 _____, management of, difficult 23,456.
 School gardens, value of (454), 23,448.
 Secondary school system, agricultural training in, as "practical arts" subject (454).
 _____, practical (453).
 _____, vocational (453), 23,458, 23,459.
 _____, examination standards for, have declined and should be raised 23,474-23,477.
 _____, has become inadequate (452, 453).
 _____, in rural areas, should be brought into relation with life of country (453).
 _____, suggestions for improving (453).
 _____, teachers, securing living wage for, the first essential (453).
 _____, training of 23,490.
 Teachers, better type of, would tend to keep children at school 23,610-23,614.
 _____, calibre of, at Guru training schools, low 23,453.
 _____, do not form part of village life 23,517, 23,518.
 _____, for agricultural bias schools, will take long time to train 23,457.
 _____, female, paid higher than male 23,635-23,637.
 _____, not at present drawn from agricultural classes 23,602, 23,603.
 _____, salaries of, poor 23,454, 23,514.
 _____, *see also* Female education and Secondary school system.

PEDDIE, Mr. J., I.C.S., Magistrate Collector, Malda (423-442), 23,279-23,442.

ADMINISTRATION :

- Railways and steamer facilities, adequate (425).
 Road Board, need for provincial (425).
 Roads, bad condition of, under District Boards, due to lack of money (425), 23,298.
 _____, need for extra taxation (such as cart tax) to improve (425). 23,299, 23,300, 23,429, 23,430.

AGRICULTURAL INDEBTEDNESS :

- Causes of borrowing (425, 426).
 Courts, often inaccessible to poorer classes (426, 427).
 Interest charged by moneylenders, excessive (426, 427).
 _____, may be reduced by activities of credit societies 23,309, 23,310.
 _____, should be limited (427).
 Land, is passing out of hands of real cultivators (426), 23,301.
 _____, effect of this on cultivation 23,302-23,306, 23,316.
 Moneylenders, are in many areas the only source of credit (426).
 _____, dishonest accounting by 23,436; prevention of 23,437-23,440.
 _____, interest charged by, *see* Interest.
 _____, large numbers of "amateur" 23,442.
 _____, need for more control of, by licensing and inspection (427), 23,349-23,354, 23,437-23,441.
 _____, numbers and capital of, increasing 23,434, 23,435.
 Mortgage and sale, right of, should not be limited (427).
 Non-terminable mortgages, should be prohibited (427).
 Primary education and social reforms, need for, to lighten burden of debt (426).
 Usurious Loans Act, provisions of, too vague (427), 23,307.
 _____, should be more rigorously enforced (427), 23,367-23,383.

INDEX.

PEDDIE, Mr. J.—*contd.*

AGRICULTURAL INDUSTRIES :

- Cultivators, have ample time for subsidiary industries (430).
- Factories, difficult to establish in rural areas owing to bad communications (431).
- Government, role of, in regard to subsidiary occupations (430).
- Industrial unions and sale and purchase societies, need for starting (431).
- Investigation of possibilities of rural industries, need for (431).
- Necessity for subsidiary industries, should be taught in schools (430).
- Non-official help, essential for subsidiary industries (430).
- Obstacles to subsidiary industries (430).
- Sericulture, average income from 23,339.
- , note on (*Appendix*) (435-442), 23,280-23,284, 23,340.
- , should be made whole-time occupation where possible 23,344, 23,345.

AGRICULTURAL LABOUR :

- Migration, confined to wandering tribes 23,387-23,395.

ANIMAL HUSBANDRY :

- Cows, often too small for good bulls to be of use (430).
- Fodder, need for growing (430).
- , scarcity of (430).
- Pasture lands, lack of (429, 430).
- , overstocking of available (430).
- Silage, need for development of (430).

ATTRACTING CAPITAL :

- Men of capital and enterprise, methods of inducing, to invest money in agriculture (433).
- Moneylending, profits from, too large to attract capital to land improvement (433).
- Owners of land, need for educating (433).
- , take little interest in land improvement (433).

CO-OPERATION :

- Agricultural co-operative inspectors, in close touch with Agricultural Department, need for, to form and supervise agricultural co-operative societies (432).
- Agricultural unions for financing co-operative societies, need for (431).
- Central Banks, often become dividend-earning machines (431).
- , should undertake seed supply work, &c. (431).
- Compulsion of obstinate minorities, need for (432).
- Co-operative movement, chiefly confined to credit societies (431).
- , lack of public demand for extension of (431).
- Credit societies, failure of, due to lack of supervision (431, 432).
- Development Department, need for, to co-ordinate work of agricultural, co-operative and industrial officers (432).
- Government, must lead the way in development of co-operative movement (431).
- Joint farming societies, not possible at present (432).
- Membership of co-operative societies limited to well-to-do cultivators (432).
- Provincial Agricultural Federation, need for, to accelerate spread of co-operation (432).
- Purchase and sale societies, scope for (432).

CROPS :

- Improvement of existing crops, suggestions for (429).
- , successful, examples of (429).
- New crops, suggestions for (429).
- Seed distribution, cannot be done by Agricultural Department unaided (429).
- , co-operative (431).
- , non-official registered and supervised seed farms for, need for (429).

INDEX.

PEDDIE, Mr. J.—*contd.*

DEMONSTRATION AND PROPAGANDA :

- Agricultural Associations, need for, in each Union Board area (424), 23,293-23,297.
- Agricultural Department, difficulties due to lack of staff of (424), 23,292.
- Circle officers, agricultural training for 23,418.
- _____ , should interest themselves in agricultural development (424), 23,415-23,417.
- Cultivators, necessity for getting into close touch with (425).
- _____ , will adopt improvements showing financial return (425).
- Demonstration farms, must be run on economic basis, possibly with non-official help (423).
- _____ , suspected by cultivators 23,291.
- Demonstrations on cultivators' own fields, difficulty of obtaining consent for 23,289, 23,290.
- District officers, agricultural propaganda by (424).
- Field demonstrations, value of (423, 424).
- Seed, policy of distributing improved, to large number of individuals in one area, success of (423, 424).

EDUCATION :

- Adult education, classes for, might be held in conjunction with Middle English schools (423).
- _____ , requires non-official help (423).
- Child labour, demand for, interferes with education (432, 433).
- Compulsory education, proposed legislation for, in Bengal (423, 432).
- Fines for absence, deter parents from keeping children at school (433).
- Government service, the main inducement to study agriculture (423).
- Higher education, at present does nothing to raise agricultural efficiency (432).
- Middle-class youths, can be attracted to agriculture by proof that it will pay (423).
- School farms, advantages of, compared with plots (423), 23,285-23,387.
- _____ , financing of (423).
- Teachers in rural areas, should be drawn where possible from agricultural classes (423).
- Teaching facilities, scope for extension of (423).

FINANCE :

- Agriculturists Loans Act, grants under, should be made to subserve propaganda programme of Agricultural Department (425), 23,419-23,423, 23,431-23,433.
- _____ , practically a dead letter (425).
- Co-operative societies, the best means of financing cultivators (425).
- Taccavi, might be used to greater extent (425).

HOLDINGS :

- Compulsion of obstinate minorities, desirable (427).
- Co-operative consolidation, the only satisfactory method (427).
- Fragmentation, difficult to check 23,356.
- _____ , disadvantages of, can be brought home to cultivators 23,357, 23,358.
- Holdings, size of average 23,355.
- Obstacles (sentimental and practical) to consolidation (427).

IRRIGATION :

- Fodder crops, cannot be grown without irrigation 23,331.
- Irrigation in Malda district, scope for (427, 428), 23,318-23,325, 23,328-23,330, 23,397-23,400, 23,404, 23,405.
- Obstacles to extension of irrigation (428).
- Tanks, have largely silted up (428).
- _____ , re-excavation of, by co-operative effort (428).

INDEX.

PEDDIE, Mr. J.—contd.

IRRIGATION—contd.

- Water rate in permanent settlement areas, Acts governing 23,410-23,414.
_____, method of charging 23,409.
_____, presents no difficulty 23,406-23,408.
- Wells in Malda district, would not afford sufficient water for irrigation 23,326, 23,327, 23,384, 23,385.

SOILS :

- Denudation of forests, has led to soil erosion (429).

STATISTICS :

- Agricultural statistics, bound to be inaccurate owing to low level of general education (434).
- Market prices of agricultural produce, should be displayed in villages (434).

WELFARE :

- Condition of agricultural classes, deteriorating 23,111-23,116, 23,401-23,403.
- Conservatism of cultivators, an obstacle to hygienic improvements (431).
- District Boards, should enforce by-laws for removal of insanitary conditions (433).
- _____, should take loans for improvement of rural water supply (433).
- Economic surveys of typical villages, very necessary (433).
- Malaria, caused by insanitary conditions (433).
- _____, effect of, on cultivators 23,333-23,337.
- Workers in rural areas, honorary, difficult to obtain 23,338.

RAY, Sir P. C., Kt., D.Sc. University College of Science and Technology, Calcutta (365-367), 22,673-22,940.

AGRICULTURAL INDEBTEDNESS :

- Improvvidence of cultivators (366), 22,690, 22,691.
- Indebtedness of cultivators, is increasing 22,694-22,697.

AGRICULTURAL INDUSTRIES :

- Bengalis, are backward in matters of trade and industry 22,802, 22,803, 22,837-22,845, partly owing to permanent settlement 22,862.
- Cultivators in Bengal, have ample spare time for subsidiary occupations (366, 367), 22,893.
- Government help for subsidiary industries 22,921-22,928.
- Mat making 22,711-22,713.
- Rural industries, decay of, has increased pressure of population on soil (365, 366), 22,697-22,699, 22,897, 22,898.
- _____, due to importation of manufactured products (366), 22,894-22,896.
- Spinning and weaving, economics of 22,777-22,781, 22,794-22,801, 22,804, 22,805, 22,822-22,836, 22,902-22,916, 22,929, 22,930.
- _____, formerly the universal subsidiary occupation of India 22,787-22,793, 22,816-22,820.
- _____, generally undertaken by women 22,810-22,821.
- _____, most suitable subsidiary occupation for cultivators (367), 22,714, 22,764-22,769.
- _____, must go together 22,782-22,786, 22,931.
- _____, propaganda for, effect of 22,714-22,716, 22,770-22,776.

INDEX:

RAY, Sir P. C.—*contd.*

ANIMAL HUSBANDRY:

- Brahmini bull system 22,674-22,676.
- Bulls, distribution of, to local bodies 22,917-22,919.
- Cattle, improvement of, in England (365), 22,866-22,873.
- _____, need for, in Bengal (365).
- _____, poor quality of (366).
- Co-operative dairy farms, Government assistance for 22,920.
- Cows, do not receive the same attention as formerly (365).
- Fodder, need for growing of 22,874-22,878.
- _____, supply of, has decreased owing to pressure on land and jute cultivation (366), 22,679-22,681.
- Milk, condensed, used for children even in villages (366), 22,681-22,683.
- _____, harm done by lack of (365, 366), 22,684.
- _____, price of, to-day, compared with 55 years ago, 22,682, 22,685-22,687.
- _____, production of, decreased by underfeeding of cattle, 22,730.
- Pastures, decline of (366), 22,680.
- _____, difficulty of increasing, 22,890-22,892.
- _____, provision of land for, 22,846-22,849.
- _____, value of enclosed, 22,868-22,870, 22,877.

CROPS:

- Seed, improved varieties of jute and paddy, growing demand for, 22,724, 22,725.

EDUCATION:

- Compulsory primary education, financing of, 22,806-22,809.
- _____, necessary if agriculturists are to benefit by results of research (366), 22,932-22,934.
- Science courses at Indian Universities, high standard of, 22,940.

FERTILISERS:

- Bonemeal, caste prejudice against, disappearing, 22,860.
- Superphosphates, manufacture of, in India, 22,752-22,757.

RESEARCH:

- Indian students, their aptitude for research, 22,728, 22,729.

WELFARE:

- Absentee landlords, problem of, due partly to permanent settlement, 22,861, 22,862.
- _____, more acute than formerly, 22,705-22,709, 22,899-22,901.
- Co-operative public health societies, possibilities of, 22,733-22,736.
- Diet of cultivators (365, 366), 22,684, 22,879-22,886.
- Drink evil, is spreading, 22,718, 22,719.
- Health of cultivators, effect of malnutrition on, 22,703, 22,704.
- _____, has deteriorated owing to spread of malaria, etc., 22,700-22,703.
- Migration to prosperous tracts, hindered by attachment of cultivators to their homes, 22,850-22,857.
- Pressure of population on land, has become enormous through decay of rural industries (365, 366), 22,697-22,699, 22,897, 22,898.
- Standard of living of cultivators, 22,688-22,693, 22,850, 22,851.
- Tobacco (cigarette) habit, spreading, 22,720-22,723.
- Tube wells for improvement of water supply, cost of, 22,745-22,748.
- _____, department for, at Bengal Chemical Works, 22,737, 22,738, 22,743, 22,744.
- _____, great demand for, 22,739-22,742, 22,750, 22,751.
- _____, scope for, 22,749.

Villages, were formerly self-sufficient (365, 366).

_____, should be self-sufficient (365, 366).

Water supply, improvement of, by tube wells, see Tube wells.

INDEX.

RESEARCH:

- Advisory Council for co-ordination of research (*Hutchinson*) (297), 22,061-22,063.
- All-India Research Board, need for, to co-ordinate agricultural and veterinary research (*Mitra*) (127), 19,781-19,783.
- Central Government, role of, in research (*Finlow*) 17,604-17,608, 18,613-18,619.
- Central organisation for research, desirability of (*Finlow*) 17,606.
- _____, might initiate research, but would principally deal with provincial schemes (*Finlow*) 17,608.
- _____, must command provincial support (*Finlow*) 17,609-17,611.
- _____, must not have executive authority (*Finlow*) 17,612.
- _____, provincial representation on, essential (*Finlow*) 17,607.
- Conferences of research workers, need for revival of (*Indian Tea Association*) (386), 23,056.
- Co-ordination of research (*Finlow*) 17,614-17,618, 18,616, (*Hutchinson*) (297), (*Indian Tea Association*) (386).
- District Agricultural Officers, should carry out research (*Momen*) (319).
- Dry cultivation, research to assist (*Finlow*) 17,620-17,627, 17,640.
- Financing of research, by small export cess (*Mitra*) (127), 19,783-19,787.
- Fodder, need for research on (*Mullick*) (349).
- Honours graduates of Bengal Universities, promising in research (*Finlow*) 17,646-17,651, 18,164, 18,165.
- Indian research workers, training of, in India (*Finlow*) 17,646-17,652.
- _____, in Europe, after post-graduate course in India (*Finlow*) 17,654-17,658.
- _____, work of (*Finlow*) 17,653.
- Indian students, their aptitude for research (*Ray*) 22,728, 22,729.
- Indigenous methods of agriculture, need for studying (*Mitra*) (127).
- Indigo, research on, stopped owing to retrenchment (*Hutchinson*) 21,889-21,891.
- Irrigation research, need for special laboratory (*Hutchinson*) (301), 21,856, 21,982-21,992, 21,999-22,000.
- Jute, research on (*Finlow*) (2), 18,221, 18,227.
- Manurial experiments (*Finlow*) 18,245-18,248.
- Organisation of provincial research by crops (*Finlow*) 18,173.
- Organisation of research by crops, on lines of Indian Central Cotton Committee financing of (*Finlow*) 17,595-17,603.
- Organisation of research by crops, on lines of Indian Central Cotton Committee: might be applied to jute, pulses, oilseeds, tobacco and paddy (*Finlow*) 17,590-17,593, 18,527.
- Organisation of research by crops, on lines of Indian Central Cotton Committee: value of (*Finlow*) (2), 17,588, 17,589.
- Organisation of research in Bengal (*Finlow*) 17,561-17,577, 18,174-18,179, 18,190-18,198, 18,393-18,399.
- Paddy, research on (*see under CROPS*).
- Personnel, Lee Commission, recommendations of, and failure to attract best class of Indians, have militated against progress of research (*Hutchinson*) (296), 21,974-21,981, 22,036-22,041.
- _____, provinces, handicapped by loss of experienced men (*Hutchinson*) (296); *see also* Lee Commission.
- Provinces, role of, in research (*Finlow*) (2), 17,612, 18,206-18,208, 18,613-18,619, (*Mitra*) (127, 128), (*Momen*) (319), (*Jute Mills Association*) (414).
- Pulses, research on (*Finlow*) 18,756-18,762.
- Pusa, continuity of research at, lacking (*Hutchinson*) 21,931-21,935.
- _____, continuous policy at, importance of (*Hutchinson*), 21,825, 21,826.
- _____, educational work at, should be conducted by additional staff (*Hutchinson*) (297).
- _____, should not be allowed to interfere with research (*Hutchinson*) (296).

INDEX.

RESEARCH—*contd.*

- Pusa, examples of help given by, to Bengal (*Finlow*) 18,220, 18,221.
 —, geographical position of, unsatisfactory (*Hutchinson*) (297), 21,832, 21,833, 21,864.
 —, should be changed if funds become available (*Hutchinson*) (297), 21,885.
 —, high standard of research work at (*Finlow*) 17,582-17,585.
 —, inadequate for whole of India and requires enlarging (*Indian Tea Association*) (386).
 —, is better equipped to provide instruction on research work on Indian problems than any foreign institution (*Hutchinson*) (296).
 —, joint directorship system at, unsatisfactory (*Hutchinson*) (296).
 —, post of Director of, should be separated from that of Agricultural Adviser (*Hutchinson*) (296), 21,821-21,825.
 —, type of man required for (*Hutchinson*) 21,881-21,884, 21,886-21,888, 21,978-21,980.
 —, prestige of, high (*Hutchinson*) 21,813, 21,814, 21,928, 21,929.
 —, should afford such facilities for Indian research workers as will make it unnecessary for them to go abroad (*Hutchinson*) (296), 21,815-21,819.
 —, should have whole-time Director (*Hutchinson*) (296), 21,820.
 —, should maintain high standard of research for benefit of India as a whole (*Hutchinson*) (296).
 —, should serve as nucleus for co-ordination of research (*Hutchinson*) (297).
 —, vitally important that it should carry weight with Central Government (*Hutchinson*) (296).
 Pusa Council (*Hutchinson*) 21,886-21,888.
 Recording results of experiments, machinery for, capable of improvement (*Finlow*) 17,752-17,759.
 Research, necessary not only on crops but on the same crop in different districts (*Finlow*) 18,529-18,531.
 —, staff for, in Bengal (*Finlow*) 17,564-17,569.
 Research workers, and teachers, attitude of mind of, different (*Hutchinson*) (297), 21,937, 21,938, 22,073-22,075.
 —, Indian, training of, *see under* EDUCATION.
 —, who give too much time to teaching, lose their value for research (*Hutchinson*) (296, 297), 21,827-21,831.
 Retting, experiments on (*Finlow*) 18,236, 18,237.
 Scientific Department of Indian Tea Association, closer touch with Pusa desirable (*Indian Tea Association*) 22,953-22,958, 23,048.
 —, no Government representation on (*Indian Tea Association*) 23,043, 23,044, 23,047, 23,048.
 —, work of (*Appendix Indian Tea Association*) (391-395).
 Sericulture, research on (*Hutchinson*) 21,892-21,895.
 Statistical research on agriculture and allied subjects, need for (*Bentley*) (240), 21,147, 21,150.
 Subjects suggested for research (*Mitra*) (127), (*Indian Tea Association*) (386, 387).
 Tea research, at Government stations, possibility of (*Indian Tea Association*) 23,051.
 —, need for central station for, with number of small district stations owing to differences in climate, soil, &c. (*Indian Tea Association*) 23,039, 23,042.
 Water requirements of crops, need for research on (*Mullick*) (349).

INDEX.

ROY, Mr. S. N., Member of a Deputation of Representatives from Districts in Bengal 24,553-24,571.

ADMINISTRATION:

Circle officers, duties of 24,511-24,516.

Circles, formed of four or five Unions 24,522, 24,523.

-----, principal landholders in, do not meet to discuss topics of common interest 24,524, 24,525.

Union Boards, could be made very effective rural organisations 24,450, 24,451.

-----, income and area of 24,456-24,458, 24,519, 24,520.

-----, largely run by their chairmen 24,449, 24,452, 24,510.

-----, secretaries of, salary and duties of 24,453-24,455.

AGRICULTURAL INDEBTEDNESS:

Cultivators, are not selling their land in any numbers 24,567-24,568.

Landlords, discourage meetings of cultivators 24,525, 24,526.

-----, rents charged by 24,527-24,533.

-----, take little interest in village affairs 24,526.

Moneylenders, interest charged by, rate of 24,301-24,304.

-----, from ordinary cultivators, taken in paddy 24,318.

-----, prefer to let interest accumulate to get compound rate and take possession of holding 24,318.

AGRICULTURAL INDUSTRIES:

Cultivators, have ample spare time for subsidiary industries 24,358-24,364.

ANIMAL HUSBANDRY:

Breeding, not carried out in Burdwan district 24,549.

Bullocks, number required for given holding 24,546.

Cows, food given to 24,550-24,555.

Fodder crops, can be grown on paddy land 24,343-24,346.

-----, need for water for 24,347.

-----, opportunities of growing 24,342.

Fodder shortage, lasts throughout the year 24,337-24,339.

Ghi, pure, difficult to obtain 24,350.

Milk, scarcity of 24,348, 24,349.

-----, supply of, deteriorating 24,354.

Pasture land, has been usurped by zamindars 24,355-24,357.

CO-OPERATION:

Anti-malaria society in Burdwan district, success of 24,314-24,318.

-----, works in conjunction with Union Board 24,315, 24,316.

Co-operative societies, interest charged by, as high as that of moneylenders 24,294-24,305, 24,506-24,508.

-----, lend money to townspeople 24,306-24,309.

-----, propaganda for, lack of 24,311, 24,312.

CROPS:

Crops grown in Burdwan district and method of cultivation 24,264-24,270.

Vegetables and fruit, growing of 24,470-24,477.

DEMONSTRATION AND PROPAGANDA:

Agricultural shows, value of 24,566.

-----, at Dacca (*q.v.*).

Cultivators in Burdwan district, are anxious to adopt improvements 24,284-24,288.

-----, are not in touch with Agricultural Department 24,272, 24,282, 24,283, 24,436, 24,503-24,505.

Dacca agricultural show, difficulty of obtaining information at 24,273-24,278, 24,500-24,502.

INDEX.

ROY, Mr. S. N.—*contd.*

DEMONSTRATION AND PROPAGANDA—*contd.*

- Demonstration farm at Burdwan, existence of, unknown in neighbourhood 24,279-24,281, 24,404-24,408, 24,424, 24,425, 24,432-24,435.
- Demonstrations on cultivators' own holdings, the best method 24,289-24,292.
- Newspaper published by Agricultural Department, would be valuable if cheap 24,565.
- Propaganda by fertiliser industry, better than that of Agricultural Department 24,509.

EDUCATION :

- Cultivators, their opinion of education 24,367-24,370.
- Middle English school at Panchara, teachers at, salaries of, 24,373-24,376; paid by local subscriptions and grant from District Board 24,382-24,384; have other sources of income 24,380, 24,381.
- _____, unsatisfactory 24,365, 24,366, 24,371, 24,372.
- Primary education, further taxation of, impossible to bear 24,563.
- _____, need for extension of 24,562.

FERTILISERS :

- Artificial fertilisers, information on, supplied by fertiliser industry 24,438, 24,439.

HOLDINGS :

- Consolidation, will be helped by spread of education 24,394-24,396.
- Co-operative cultivation, possibility of 24,392.
- Fragmentation, prevalence of 24,319, 24,320, 24,385-24,391.
- Subdivision, avoidance of, by system of valuation 24,321-24,327.
- Zamindars, are opposed to consolidation 24,443-24,445.
- _____, charge too high commutation fees 24,327-24,335.

IRRIGATION :

- Eden canal, supply of water from 24,492-24,494.
- Irrigation, and malaria, connection between 24,255-24,263.
- _____, in Panchara district, scope for 24,478, 24,479.
- Irrigation Department, indifferent to interests of cultivators 24,496-24,498.
- Tanks, co-operative re-excavation of 24,487-24,490.
- _____, method of distributing water from 24,480.
- _____, need for loans for re-excavation of 24,481.
- Wells, not used for irrigation in Burdwan district 24,482-24,485, 24,490-24,492.

MARKETING :

- Cultivators, in Panchara district, are acquainted with market prices 24,400, 24,401.
- _____, where communications are bad, do not get proper price for their produce 24,401-24,403.
- Paddy, marketing of 24,397-24,399.

WELFARE :

- Diet of people, is slowly changing 24,474, 24,475.
- Malaria, due to interference with drainage 24,255-24,257, 24,263, 24,266, 24,556-24,558.
- _____, incidence of, is increasing 24,260-24,262.
- _____, renders cultivators unfit for work 24,258, 24,259, 24,347.

SEEDS, *see under* CROPS.

SERICULTURE, *see under* AGRICULTURAL INDUSTRIES.

INDEX.

SHEBBEARE, Mr. E. O., Conservator of Forests (206, 207), 20,607-20,920.

FODDER AND GRAZING :

- Fodder, famines of, not common in Bengal 20,633, 20,634.
- _____, necessity for storing 20,632.
- _____, possibility of increasing, by village forests (207).
- _____, preservation of, for sale to cultivators 20,635.
- _____, should be under Forest Department 20,636-20,639.
- Goats, do great damage in forests 20,906.
- Grass-cutting, allowed in all forests 20,623-20,625.
- Grasses grown in forest areas 20,733.
- Grazing, forest, a cause of fires (206, 207), 20,648, 20,649.
- _____, allowed in some reserved forests 20,622-20,624, 20,879-20,881.
- _____, cannot be extended (206).
- _____, damage caused by excessive (206, 207), 20,648, 20,649.
- _____, many blocks open to, should be closed (206).
- _____, method of combatting, by stall-feeding (q.v.).
- _____, only affects villages in immediate neighbourhood 20,885-20,888.
- _____, should be discouraged 20,722.
- _____, in private forests 20,626.
- _____, result of cheap, in causing deterioration of cattle (206), 20,630-20,632.
- _____, use of bamboos for 20,739.
- Lopping of trees for fodder 20,882-20,885.
- Sheep-graziers, do not make use of forests 20,902-20,905.
- Stall-feeding, introduced by Forest Department to stop damage done by grazing (206), 20,734.
- _____, not practised in plains (207).

FORESTS :

- Afforestation of hill-tops and headwaters, need for (207), 20,661-20,665.
- Agricultural education for junior Forest officers 20,611.
- Area under forest in Bengal 20,666-20,669, 20,836-20,842.
- Bamboos, use of, for grazing 20,739.
- _____, for paper-making 20,733-20,742.
- Charcoal, manufacture of, difficulties of 20,691-20,694.
- _____, need for investigating 20,774-20,777.
- _____, sale of 20,820, 20,821.
- Cinchona cultivation, is under a special department 20,718, 20,719.
- Classification of forests in Bengal 20,612, 20,613, 20,670-20,672.
- Communications in forest areas, have improved in recent years 20,728.
- _____, importance of 20,729.
- Co-operation of Agricultural and Forest Depts., close 20,609, 20,610, 20,735-20,737.
- Cultivators, giving of trees to, for plantation 20,815-20,817, 20,897-20,901.
- _____, privileges of, in reserved forests 20,698-20,707.
- Denudation of forests, caused by excessive grazing (207), 20,658, 20,659.
- _____, has led to floods and soil erosion (207), 20,655-20,660, 20,730-20,732.
- _____, process of, still continuing (207).
- _____, to provide space for tea cultivation, not now practised 20,891, 20,892.
- Fires, the inevitable result of forest grazing (206, 207), 20,648, 20,649.
- Firewood, from forests, cost of, compared with coal 20,687-20,690.
- _____, cost of transport of 20,681; 20,684-20,686, 20,756, 20,757.
- _____, demand for 20,680.
- _____, provision of, method for 20,673-20,679, 20,778, 20,779.
- _____, regarded from commercial rather than agricultural angle 20,695-20,697.
- _____, provision of, by village forests, see Village forests.

INDEX.

SHEBBEARE, Mr. E. O.—*contd.*

FORESTS—*contd.*

- Floods, caused by denudation of forests (207), 20,730-20,732.
 Forest Department, revenue and expenditure of, 20,766-20,773.
 _____, compared with Bombay 20,780-20,784, 20,835
 _____, revenue of, could be increased by increased ex-
 penditure 20,787-20,789.
 Grasses, use of, for paper making 20,744-20,755.
 Labour, great shortage of, for forest work 20,694, 20,725-20,727, 20,809,
 20,810.
 _____, wages paid to 20,807, 20,808.
 Lao cultivation 20,723, 20,724.
 Leaf mould, little demand for 20,812.
 Match factories 20,802-20,805.
 Paper making from bamboos and grasses 20,733-20,755
 Private forests, extensive 20,620, 20,621.
 _____, hiring out of grazing in 20,626.
 _____, responsibility of Forest Department in regard to
 20,627-20,629.
 Railway requirements for timber, meeting of 20,712-20,715, 20,791-
 20,801, 20,806, 20,806a, 20,834.
 Soil erosion, caused by denudation of forests (207), 20,655-20,660.
 Taungya system, efforts being made to increase (206), 20,650.
 _____, particulars of (206), 20,641-20,647, 20,843-20,854,
 20,862-20,867, 20,912-20,915.
 Terracing 20,829-20,833.
 Trees grown in forests 20,708-20,719, 20,790, 20,822-20,825, 20,855-20,857,
 20,868-20,871, 20,895-20,899.
 Unclassed forests, control of 20,615, 20,616.
 Village forests, control of, by panchayats 20,619, 20,858-20,861.
 _____, experiments with, at Bankura (207), 20,860, 20,872-
 20,876.
 _____, for providing firewood and fodder (207).
 _____, possibilities of (207), 20,650-20,654.
 _____, special section for, need of 20,652.
 Waterways in the Sunderbans 20,782-20,786.

SIME, *see* INDIAN JUTE MILLS ASSOCIATION.

SIMPSON, *see* INDIAN JUTE MILLS ASSOCIATION.

SOILS.

- Barind land, has deteriorated for want of manure (*Ahmed M.*) (558).
 Deltaic land in Lower Bengal, problems caused by (*Finlow*) (7, 8), 17,873.
 _____, suggestions for improving (*Finlow*) (7),
 17,874-17,877.
 Denudation of forests, has led to soil erosion (*Finlow*) (8, 13), (*Peddie*)
 (429).
 Drainage, in Burdwan division, special features of and suggestions for
 improving (*Mitra*) (131).
 _____, and bunds, for reclamation of land (*Bentley*) (246).
 Embankments to prevent ingress of salt water, investigation of, needed
 (*Mitra*) (131).
 _____, co-operative societies
 for (*Mitra*) (131).
 _____, need for (*Mitra*) (130,
 131).
 _____, obstacles to construc-
 tion of (*Mitra*) (130,
 131), 19,442-19,445.
 Floods, prevention of (*Momen*) (325).
 Iron ploughs, use of, adds to fertility of soil (*Finlow*) (10).
 Jungles, need for reclamation of land covered by (*Ahmed M.*) (558)
 Jute land, large proportion of, is covered with silt and does not require
 fertilisers (*Morgan*) 21,479, 21,480, 21,649-21,654.

INDEX:

SOILS—*contd.*

- Jute land, is not deteriorating (*Morgan*) 21,615-21,617.
 Land improvement schemes, demand for (*Burrows*) (472).
 Major and minor works, need for alteration in definition of (*Burrows*) (473).
 Minor works, procedure for, should be simplified (*Burrows*) (473).
 _____, value of, for improvement of agriculture (*Burrows*) (473).
 Productivity of land, has declined (*Momen*) 22,362-22,364.
 Red soils, characteristics of (*Finlow*) 17,879, 17,881.
 Silt-bearing water, control of (*Finlow*) 17,874-17,877.
 Silt soils, characteristics of (*Finlow*) 17,879, 17,881.
 Soil analyses, necessity for (*Morgan*) 21,669.
 Soil bacteriology, expert on, should be appointed in each Province (*Hutchinson*) (299), 22,064-22,068.
 _____, need for research on (*Hutchinson*) (299), (*Indian Tea Association*) (387).
 Soil erosion, denudation of forests as cause of (*Finlow*) (8, 13), (*Peddie*) (429).
 _____, may be prevented by afforestation (*Mitra*) (131).
 _____, (*Finlow*) (8, 13).
 Soil fertility, improved cultivation as method of enhancing (*Hutchinson*) (297), 22,004-22,011.
 _____, intensive cultivation of cereals (improved implements and crops) leads to loss of, which must be made good (*Hutchinson*) (298, 299), 21,846, 21,847, 22,048-22,054.
 _____, research on, can be undertaken in any part of India (*Hutchinson*) (297).
 _____, result of intensive cultivation on, recognised by cultivators (*Hutchinson*) (298), 21,846.
 Soil surveys, need for (*Finlow*) 17,867-17,872, 18,554, 18,555, (*Mitra*) (128), (*Ahmed U.*) (535).
 Waterlogging, affects one-tenth area of Presidency (*Das*) 18,942.
 _____, damage done by (*Finlow*) 17,857-17,861, (*Momen*) (325), (*Ahmed U.*) (534).
 _____, definition of (*Das*) 18,953-18,955.
 _____, drainage, permits land to recover (*Das*) 18,941, 18,956-18,958.
 _____, not required for more than half area, remainder draining itself when rivers go down (*Das*) 18,942.
 _____, due to rainfall (*Das*) 18,956.
 _____, has thrown large areas out of cultivation (*Das*) 18,940.
 _____, investigation of (*Das*) 18,935-18,939.
 _____, pumping of water back into canals, impossible (*Das*) 18,959-18,961.
 _____, reclamation of land affected by, should be undertaken by Government (*Momen*) (325).

SOUTAR, *see* INDIAN JUTE MILLS ASSOCIATION.

STATISTICS.

- Agricultural statistics in Bengal, found to be inaccurate owing to low level of general education (*Peddie*) (434).
 _____, discrepancies between (*Finlow*) 18,562-18,574, 18,747-18,749.
 _____, inaccurate but valuable (*Bentley*) 21,317, 21,318.
 Agricultural surveys (*Finlow*) 18,202.
 Bowie, Mr., his work on statistics (*Bentley*) (247), 21,315, 21,316.
 Cadastral survey, necessary to secure accurate agricultural statistics (*Morgan*) (274), 21,623-21,625.
 Crop forecasts and returns, *see under* MARKETING.
 Danger of relying on present statistics, owing to frequent changes in methods of collecting and estimating (*Bentley*) (247).
 Graphic form for statistics, value of (*Bentley*) 21,401.

INDEX.

STATISTICS—*contd.*

- Inter-provincial rail-borne trade, value of statistics regarding (*Finlow*) 18,092-18,094.
- Local bodies, should keep their own statistics (*Bentley*) 21,402.
- Medical statistics, reliability of (*Bentley*) 21,319-21,321, 21,330, 21,331.
- Modern statistical methods, need for employment of (*Bentley*) (247), 21,147.
- Statistical agricultural survey of India, need for (*Bentley*) (247).
- Statistical clerks, need for one in each Province (*Bentley*) 21,148.
- _____, training of 21,149.
- Statistical tables in "Note on the Production of Tea in India," need for earlier publication of (*Indian Tea Association*) (390).
- Statistics of tea production prepared by Government, legislation for compulsory returns of planting statistics for, not objectionable (*Indian Tea Association*) (390), 23,033-23,037.
- _____, not so accurate as Tea Association's figures. (*Indian Tea Association*) (390).
- Statistics, value of, for administrators (*Bentley*) 21,401, 21,407, 21,408.
- Vital statistics, and economic conditions, close relationship between (*Bentley*) 21,150, 21,228.
- _____, improvement of (*Bentley*) 21,409, 21,410.

TARIFFS.

- Cess on exported agricultural produce for financing of research, &c. (*Finlow*) 17,595-17,603, (*Mitra*) (127), 19,783-19,787.
- Export duty on tea, amount raised by and incidence of (*Indian Tea Association*) 23,162, 23,163.
- _____, detrimental to interests of agricultural classes (*Indian Tea Association*) (389, 390), 23,071, 23,164-23,174.
- _____, effect of, on production of tea in India compared with Java (*Indian Tea Association*) (390).
- _____, has no effect on prices in India (*Indian Tea Association*) 23,030-23,032.
- _____, in Ceylon, compared with India (*Indian Tea Association*) 23,145, 23,146.
- Jute, cess on, affects cultivators adversely and should be reduced or abolished (*Bentley*) (246).
- _____, amount of (*Morgan*) 21,781-21,785.
- _____, for Government of India, incidence of and revenue from (*Jute Mills Association*) 23,225-23,228.
- _____, for Provincial Government, for Calcutta Improvement Trust, incidence of and revenue from (*Jute Mills Association*) 23,230, 23,231.
- _____, goes to Government of India (*Ahmed H.*) 18,584.
- _____, possibility of increasing (*Ahmed H.*) 18,390-18,392, 18,797-18,799, (*Morgan*) 21,784, (*Jute Mills Association*) 23,232-23,235, 23,259, 23,260.
- _____, proceeds from, should be controlled by Bengal Government and largely used to benefit the industry (*Bentley*) (246).
- _____, should be used for agricultural improvement (*Ahmed H.*) 18,622, 18,623.

VETERINARY.*

- Cattle insurance societies (*Mitra*) (132).
- Common pastures, lead to spread of disease (*Ahmed U.*) (536).
- Compulsory notification, segregation and inoculation, not advisable at present (*Burrows*) (474).

* See also under KERR, Mr. P. J.

INDEX.

VETERINARY—*contd.*

- Contagious diseases, legislation to control (*Mitra*) (132), (*Ahmed U.*) (535).
 _____, obstacles to dealing with (*Mukherjee*) (178, 179).
 _____, rules for reporting of (*Burrows*) 23,712-23,715.
 _____, suggestions for control of (*Ahmed H.*) (169).
 Cultivators, organised co-operatively, might employ Veterinary Assistants (*Ahmed M.*) (559), 24,581, 24,582.
 Diseased carcasses, disposal of (*Burrows*) (473, 474).
 Dispensaries, (*Mitra*) (132), (*Ahmed H.*) (169), (*Mukherjee*) (178).
 _____, and District Boards (*Ahmed M.*) 24,617.
 _____, may be under Government rather than local bodies (*Ahmed U.*) (535).
 _____, need for further (*Ahmed U.*) (535).
 _____, Thana (*q.v.*).
 Indigenous medicines, should be investigated (*Mitra*) (132).
 Inoculation, advantages of, becoming recognised (*Burrows*) (474), (*Ahmed U.*) (535), (*Ahmed M.*) (559).
 _____, efficacy of, doubted by cultivators (*Mitra*) (132).
 _____, fee for, acts as deterrent (*Mitra*) (132), (*Ahmed M.*) 24,650-24,653.
 _____, obstacles to popularising (*Mukherjee*) (179).
 _____, *see also* Serum.
 Serum, cannot always be obtained in time (*Ahmed H.*) (170), (*Ahmed M.*) (559), 24,583, (*Momen*) (325).
 _____, free supply of, necessary (*Mukherjee*) (179), (*Ahmed M.*) (559). 24,583-24,585.
 _____, cost of, borne by District Boards (*Ahmed M.*) 24,611-24,614.
 Thana dispensaries, scheme for (*Burrows*) (*Appendix*) (479-481), 23,739, 23,806-23,810.
 Veterinary Assistants, itinerating, more useful than dispensaries (*Ahmed M.*) (559).
 _____, need for further (*Ahmed U.*) (535), (*Ahmed M.*) (558).
 Veterinary Department, in Bengal, is independent of Agricultural Department (*Finlow*) 17,926-17,928.
 _____, should be independent of Agricultural Department (*Finlow*) (11), (*Mitra*) (132), (*Ahmed M.*) (559).
 _____, should be under Director of Agriculture (*Ahmed H.*) (169), 20,038, 20,039, (*Mukherjee*) (178), 20,099-20,103, (*Momen*) (325).
 _____, too understaffed to be efficient (*Mitra*) (128), (*Momen*) (321).

WATER HYACINTH, *see under* ADMINISTRATION.

WEST, Mr. M., M.A., I.E.S., Principal, Teachers Training College, Dacca (510-514), 23,957-24,156.

EDUCATION:

- Adult education, central schools may be used for 24,018, 24,027, 24,028.
 _____, co-operative movement, help by, for 24,021-24,025.
 _____, correspondence classes for, scheme of (513, 514), 24,139, 24,139A.
 _____, experiments in, need for further, before deciding policy 23,966.
 _____, need for, for brightening village life 23,964, 24,016.
 _____, scheme for (511), 24,026.
 _____, schools for (513).
 _____, teachers for, importance of 24,059-24,061.
 _____, too important to be entrusted to private agency 24,018-24,020.
 Agriculture, as optional subject for matriculation 24,031.
 _____, in high schools, of little value (510).
 _____, in primary schools, impossible (510).
 _____, training of teachers in (511), 24,048-24,052.
 Books of knowledge, lack of vernacular (512), 23,981, 24,140, 24,141.
 Central schools, for adult education 24,018, 24,027, 24,028.
 _____, difficulties of (511), 24,130-24,133.

INDEX.

WEST, Mr. M.—*contd.*

EDUCATION—*contd.*

- Central schools, scheme for (511), 23,961, 23,962.
 _____, should be centres of village life (511), 24,010-24,012.
 _____, should be used by Agricultural and Co-operative Departments as centres for their work (511), 24,013, 24,014.
- Child labour, demand for, interferes with education (511).
 _____, may be met by continuation and part-time classes (511), 24,041, 24,042.
- Compulsory education, adoption of, by local bodies 23,978.
 _____, cannot be introduced till present school system is altered 23,979, 23,980.
 _____, cheaper per child and more effective than voluntary system 24,043-24,047.
 _____, contracting-in system by parents for 23,968-23,971.
 _____, effect of, on teachers 23,979.
 _____, need for (511).
- Dacca Training College, course at, 23,994, 24,071-24,073, 24,120-24,126.
 _____, pupils at, 23,972, 23,999.
 _____, numbers of, 24,118, 24,119.
 _____, instruction of, in improved educational methods 23,995, 23,996.
 _____, in work of Agricultural and other Departments 24,074.
 _____, visit Dacca farm 24,032.
 _____, relations of, with University 24,115-24,117.
 _____, teaching of agriculture at 23,997, 23,998, 24,000-24,006.
- East Bengal, conditions in, differ from those in West Bengal 24,097, 24,098.
- English educational methods, not necessarily successful in India 23,966.
- Female education, importance of, from point of view of literacy of children 23,967.
- Grants-in-aid, harmful effects of system of (510), 23,976, 23,977, 24,037-24,040, 24,066-24,070.
- Hygiene in schools, teaching of 24,102-24,108.
- Illiteracy, causes of relapse into (512, 513), 24,017.
 _____, inefficiency of teachers as cause of 24,053-24,058.
 _____, number of children leaving school without learning to read (513).
 _____, vicious circle of (512), 23,965.
- Inspectors, lack training in problems of primary education (510), 24,035, 24,136.
 _____, qualifications of candidates for 24,079-24,082.
 _____, taking certain percentage of agricultural graduates for, undesirable 24,083-24,095.
- Intermediate colleges 24,127, 24,128.
- Libraries, value of 23,981, 23,982.
- Nature study, teaching of (511).
- Poverty as a cause of illiteracy (511, 512).
- Primary Education Bill, provision of funds under 24,148-24,152.
- Primary schools, experiments in, needed in small areas to determine best system for 23,959, 23,960.
 _____, grants-in-aid system for, unsatisfactory, *see* Grants-in-aid.
 _____, higher classes of, should be grouped in central schools (511), *see also* Central schools.
 _____, pupils at, majority leave before reaching top classes (510, 511), 24,153-24,155.
 _____, superfluous, method of closing 24,145-24,147.

INDEX.

WEST, Mr. M.—*contd.*

EDUCATION—*contd.*

- Primary schools, system of, present, causes of unsatisfactory nature of (510), 24,007, 24,008, 24,033-24,036.
- _____, will never produce literacy (511).
- _____, teachers in, salaries of, too small without other sources of income 23,976.
- _____, training of 23,973, 23,974.
- _____, teaching of specific subjects at, hindered by smallness of schools and fact that pupils leave early (510).
- Reading, ability of students, very limited (512), 24,142, 24,143.
- _____, method of teaching, in primary schools (513), 23,981-23,984.
- _____, suggestions for improving 23,981.
- Rural economics, should be taught in Normal Schools 24,076-24,078.
- Teachers, for central schools, *see* Central schools.
- _____, for primary schools, *see* Primary schools.
- _____, inefficiency of, as cause of illiteracy 24,053-24,058.
- _____, should be drawn where possible from agricultural classes, but energy and initiative more important 24,062, 24,063.
- _____, trained at Guru training schools, agricultural bias for (511).
- Textbooks, method of production and selection of 23,985-23,993, 24,100, 24,101, 24,111-24,114.

WELFARE.*

- Absentee landlords, problem of, due partly to permanent settlement (*Ray*) 22,861, 22,862.
- _____, more acute than formerly (*Ray*) 22,705-22,709, 22,899-22,901.
- Board of Economic Inquiry, would be valuable in Bengal (*Finlow*) (14), 18,310, 18,311.
- Condition of agricultural classes, deteriorating (*Peddie*) 23,111-23,116, 23,401-23,403.
- Conservatism of cultivators, an obstacle to hygienic improvements (*Peddie*) (431).
- Co-operative public health societies, possibilities of (*Ray*) 22,733-22,736.
- _____, *see also* under CHATTERJEE, R. B.
- Diet, need for research on (*Mitra*) (128).
- _____, of cultivators (*Ray*) (365, 366), 22,684, 22,879-22,886, (*Roy*) 24,474, 24,475.
- District Boards, should enforce by-laws for removal of insanitary conditions (*Peddie*) (433).
- _____, should take loans for improvement of rural water supply (*Peddie*) (433).
- Drink evil, is spreading (*Ray*) 22,718, 22,719.
- Drinking water, *see* under Water supply.
- Economic surveys of villages, conducting of (*Mitra*) (136).
- _____, elaborate, unnecessary (*Momen*) (328).
- _____, in Faridpur district, by Major Jack (*Burrows*) 23,826-23,828.
- _____, in Jessore (*Momen*) (328-330), 22,242-22,247.
- _____, in Talma (*Burrows*) (*Appendix*) (487-493), 23,702, 23,703, 23,763-23,765.
- _____, money spent on, would be better used for agricultural improvement (*Finlow*) 18,674, 18,675.
- _____, should be carried out by Government (*Ahmed M.*) (560).
- _____, value of (*Finlow*) 18,750-18,755, (*Mitra*) (136), (*Morgan*) 21,518, (*Peddie*) (433), (*Burrows*) (478), 23,709-23,711, (*Ahmed U.*) (537).

* *See also* under BENTLEY Dr.

INDEX.

WELFARE—*contd.*

- Education, a pre-requisite of economic and sanitary improvement (*Momen*) (327).
- Government, should take the initiative in promoting sanitary measures in rural areas (*Ahmed U*) (537).
- Hookworm, satisfactory results of campaign against in tea gardens (*Indian Tea Association*) 22,993, 22,995-23,000.
- Labour in tea gardens, conservatism of with regard to hygiene an obstacle (*Indian Tea Association*) 22,991, 22,992, 23,001, 23,002.
- , medical attention for (*Indian Tea Association*) 23,003-23,005.
- Malaria, caused by insanitary conditions (*Peddie*) (433).
- , due to interference with drainage (*Roy*) 24,255-24,257, 24,263, 24,266, 24,556-24,558.
- , effect of, on cultivators (*Mukherjee*) (180), (*Peddie*) 23,333-23,337, (*Roy*) 22,700-22,703, (*Roy*) 24,258, 24,259, 24,347.
- , incidence of, is increasing (*Roy*) 24,260-24,262.
- , not necessarily associated with jute cultivation (*Morgan*) 21,788-21,790.
- , *see also under* CHATTERJEE, R. B.
- Malaria surveys conducted by Indian Tea Association (*Indian Tea Association*) 22,993, 22,994.
- Malnutrition, effect of, on health of cultivators (*Roy*) 22,703, 22,704.
- Medical facilities, need for increased (*Finlow*) (14), (*Mukherjee*) (181).
- Pressure of population on land, has become enormous through decay of rural industries (*Roy*) (365, 366), 22,697, 22,699, 22,897, 22,898.
- Sanitary Commissioner's Department, should be brought in closer touch with rural population (*Indian Tea Association*) (390).
- Sanitary conditions, in rural areas, improvement of (*Finlow*) (14), (*Mukherjee*) (181), 20,209-20,211.
- , in up-country towns, good (*Morgan*) 21,530-21,532.
- Settlement Reports, value of (*Momen*) (319).
- Standard of living of cultivators (*Roy*) 22,688-22,693, 22,850, 22,851, (*Burrows*) (475), 23,692.
- Tube wells for improvement of water supply, cost of (*Roy*) 22,745-22,748.
- , department for, at Bengal Chemical Works (*Roy*) 22,737, 22,738, 22,743, 22,744.
- , great demand for (*Roy*) 22,739-22,742, 22,750, 22,751.
- , scope for (*Roy*) 22,749.
- Villages, were formerly self-sufficient (*Roy*) (365, 366).
- , should be self-sufficient (*Roy*) 22,758-22,762.
- Water supply, at present obtained from tanks and wells (*Mukherjee*) 20,193, 20,194.
- , attention paid to, on tea estates (*Indian Tea Association*) 23,133, 23,134.
- , importance of pure (*Finlow*) (14), (*Mitra*) (136), (*Mukherjee*) (181).
- , improvement of, by tube wells, *see* Tube wells.
- , precautions taken to ensure purity (*Mukherjee*) 20,195-20,206.
- , tanks for (*Morgan*) 21,517, 21,518.
- Workers in rural areas, honorary, difficult to obtain (*Peddie*) 23,338.

GLOSSARY

- Abwab** Illegal addition to rent demanded by a superior from an inferior holder of land.
- Adhi** Half produce rent (the share of the produce of landlord and tenant is half and half).
- Adhidar** One who cultivates on a yearly agreement giving half the crop to his landlord.
- Ails** Boundaries of fields.
- Aman (paddy)** .. Main rice crop ripening in December.
- Amlas** Clerks (especially zamindar's clerks).
- Aratdar** Seller of commodities on behalf of the growers and of middlemen with godowns for hire for storage of goods.
- Arath (arat)** Godown; place where goods are stored and sold.
- Aus (paddy)** Variety of rice crop ripening in September.
- Babu** An educated man.
- Barga (see Adhi)**
- Barind** A tract of high land extending through certain districts in the north of Bengal.
- Benami** Transaction in the name of another.
- Bepari** Dealer or commission agent (according as to whether he buys with his own or with borrowed money from an aratdar or financier,—Mahajan, Marwari, etc.)
- Bersati or Bursati** .. Disease of horses. Name given to a particular diseased condition of the skin and sub-cutaneous tissues of Equines. It gives rise to the formation of fibrous tumours and ulceration of the overlying skin.
- Bhadra** 5th Bengali month (August-September).
- Bhadralog** Gentlemen.
- Bhil (Bil)** Depression more or less permanently covered with water.
- Bigha** One-third of one acre.
- Birti** (1) A small percentage of sale money contributed to a religious fund generally (say one or half a pice in the rupee).
(2) A rent free grant (in origin for religious purposes, usually permanent and transferable, despite the purpose to which it may be put).
- Boro (paddy)** A variety of rice transplanted in January from nurseries and harvested in March. Grown in marshy land.
- Bund** Embankment or dam; also the water reservoir created by the dam.
- Char lands** Lands recently thrown up by river or sea.
- Charka** Indigenous spinning wheel.
- Chowkidar** Village watchman.
- Chowkidari rates** .. Tax levied on villages to defray the cost of the maintenance of village watchman.
- Chowkidari Union** .. A local board consisting of representatives of a group of village, in a particular area formed under the Bengal Chowkidari Act.
- Chowkidari year** .. Equivalent to a Bengali year (beginning from mid-April).
- Dadans** Advances (to cultivators from brokers against standing crops).
- Dafadar** Supervisor of Chowkidars.
- Dai** Midwife.
- Dal** A generic term for food pulses.
- Dalal** Broker.
- Damdopat** An ancient Hindu provision by which the total interest on a loan may not exceed the amount of the principal.
- Danga** High arable land.
- Darpatnidar** Holder of land from the Patnidar (q. v.)
- Deshi** Native to the country; indigenous.
- Dhulta** Dryage allowance.
- Diara** Alluvial formations.
- Doctorkhana** A dispensary.

GLOSSARY

Dofasli lands	..	Twice cropped lands.
Done	..	A pan used for lifting water from a tank or river. (It is common in West Bengal.)
Dudsar (paddy)	..	A variety of fine rice.
Faria	..	A small dealer.
Ganja	..	Preparation of hemp and an intoxicating drug.
Gowalas or Goalas	..	Milkmen.
Gur	..	Unrefined Indian sugar.
Guru	..	A teacher, especially a religious teacher.
Hakim	..	A practitioner of the Unani system of medicine (Vaid). Also landlord or Magistrate or Judge.
Halot	..	Patch (village highway broader than a path) (East Bengal).
Hát	..	Market (held on fixed days in a week).
Hundi	..	A promissory note.
Indrasail	..	A variety of paddy.
Izardar	..	Holder of a farming lease.
Jamait land	..	Land appertaining to a tenancy. Generally used of rent paying as distinct from produce paying tenancies.
Jheel (Jhil)	..	A lake.
Jhuming	..	Temporary cultivation in jungle clearings.
Jotdars	..	Tenants, cultivators, etc.
Juar	..	The large millet. (<i>Sorghum vulgare</i> .)
Kakia bombai	..	A variety of jute.
Kala-azar	..	A kind of persistent and malignant fever (Leishman—Donovan infection)—(not black water fever).
Kalai	..	A variety of pulse (dal).
Kamat	..	Proprietor's private land—also called khamar or nij-jote.
Kaktara (aus)	..	A variety of rice.
Khaddar	..	Home-made cloth.
Khal	..	A water channel or stream, sometimes an artificial water course.
Khana	..	Place, only used in combination, e.g., daftarkhana—place of office.
Kharif	..	Summer-sown (crops).
Khas mahals	..	Estates owned and managed direct by Government.
Khesari	..	A variety of pulse (dal). (<i>Lathyrus sativus</i> .)
Kist	..	Instalment of rent or revenue.
Koyal	..	Weighman.
Kutchra (Kacha)	..	Literally "not solid" and thus an equivalent of "poor quality." (Opposite Pucca.)
Kyah	..	Marwari. (A class of merchants and traders coming from Marwar.)
Lakhrāj (land)	..	Lands held revenue free (used loosely also for rent-free land).
Mahajan	..	A moneylender.
Maktab schools	..	Mahomedan primary schools for teaching the Koran.
Marwari	..	A class of merchants and traders coming from Marwar.
Mashkalai	..	A black variety of pulse (dal).
Mela	..	A fair.
Mistri	..	A mechanic.
Mutti kabari	..	Staff allowance.
Nazar	..	A present to a superior person, generally a zamindar, on a ceremonial occasion or for permission to transfer lands, effect improvements thereon, etc., etc.
Paikar	..	A wholesale dealer.
Pan	..	Betel leaf.
Paschimwallas	..	Upcountry men.
Pathsala	..	A lower primary school.
Patnidar	..	A holder of land on permanent lease from a zamindar, the rent being fixed in perpetuity and recoverable by a summary process under a special law.

GLOSSARY

Patta ..	.. A document of lease.
Poramboke	.. Communal grounds for grazing, threshing, etc.
Prodhan ..	.. A village headman.
Pucca ..	.. Solid, ripe.
Pundit ..	.. Teacher.
Rabi ..	.. Winter-sown (crops).
Salami ..	.. Fee payable to a person—generally a zamindar or a landlord— for the recognition of a transaction in property in which he has an interest.
Seer ..	.. Approximately 2 lbs. in weight.
Shepatnidar	.. A holder of land from the darpatnidar (q. v.)
Sowcar ..	.. A money-lender.
Sradh ..	.. A religious ceremony on the termination of the period of mourning.
Taccavi ..	.. Advances made by Government to cultivators for agricultural purposes.
Tahari ..	.. A customary present to zamindar's clerks.
Tahsil ..	.. In Bengal there is no revenue division corresponding to "tahsil" in the Upper Provinces. The word means "collection."
Tahsildars	.. Officers entrusted with collection of rent or revenue.
Taungya ..	.. Temporary cultivation in jungle clearings.
Thana ..	.. Police station—also the area comprised in it.
Toria ..	.. Mustard.
Utbandi tenants	.. Holders of such tenancies.
Utbandi tenures	.. Tenancies in which rent is assessed on the area cultivated each year.
Zamindar	.. A holder of permanently settled land direct from Government.