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Report of the Royal Commission
on Agriculture in India with
abridged report Part I Part 2

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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 *hunds*, 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 of 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?

APPENDIX II

LIST OF WITNESSES EXAMINED

Government of India

1. Bal Kishan, Mr., Registrar, Co-operative Societies, Ajmer-Merwara.
2. Clouston, Dr. D., M.A., D.Sc., C.I.E., I.A.S., Agricultural Adviser to the Government of India and Director of Agricultural Research Institute, Pusa.
3. Cowan, Dr. J. M., M.A., D.Sc., Officiating Director, Botanical Survey of India, Calcutta.
4. Cumming, Mr. J. W. N., Retired Extra-Assistant Commissioner in Baluchistan, Quetta.
5. Edwards, Dr. J. T., D.Sc.(London), M.R.C.V.S., I.V.S., Director, Imperial Institute of Veterinary Research, Muktesar.
6. Field, Mr. J. H., M.A., B.Sc., Director General of Observatories, Simla.
7. Fletcher, Mr. T. Bainbrigge, R.N., F.E.S., F.L.S., F.Z.S., I.A.S., Imperial Entomologist, Agricultural Research Institute, Pusa.
8. Graham, Lieut.-Colonel J. D., C.I.E., I.M.S., Public Health Commissioner with the Government of India.
9. Hardy, Mr. G. S., I.C.S., Member, Central Board of Revenue.
10. Harris, Mr. D. G., C.I.E., Dip. Ing., Zurich, M.I.E.(Ind.), Deputy Secretary to the Government of India, Department of Industries and Labour, Public Works Branch.
11. Harrison, Dr. W. H., D.Sc., I.A.S., Imperial Agricultural Chemist and Joint Director, Agricultural Research Institute, Pusa.
12. Henderson, Mr. G. S., N.D.A., N.D.D., I.A.S., Imperial Agriculturist, Agricultural Research Institute, Pusa.
13. Hindley, Sir Clement, Kt., Chief Commissioner of Railways.
14. Jamiat Rai, Diwan Bahadur Diwan, C.I.E., Retired Extra-Assistant Commissioner, Quetta.
15. Joshi, Mr. N. V., M.Sc., L.Ag., Representative of the Imperial Agricultural Department (Pusa) Association, Pusa.
16. Marriott, Lieut.-Colonel A. S., Director of Farms, Master General of Supplies Branch.
17. McCarrison, Lieut.-Colonel R., C.I.E., M.D., D.Sc., LL.D., F.R.C.P., I.M.S., Pasteur Institute, Coonoor, S. India.
18. McRae, Dr. W., M.A., D.Sc., I.A.S., Officiating Imperial Mycologist, Agricultural Research Institute, Pusa.
19. Meek, Dr. D. B., M.A., D.Sc., O.B.E., Director General of Commercial Intelligence and Statistics, Calcutta.
20. Pascoe, Dr. E. H., M.A., Sc.D.(Cantab.), D.Sc.(Lond.), F.G.S., F.A.S.B., Director, Geological Survey of India, Calcutta.
21. Pitkeathly, Mr. J. S., C.I.E., C.V.O., C.B.E., D.S.O., Chief Controller, Indian Stores Department.
22. Richey, Mr. J. A., M.A., C.I.E., I.E.S., Educational Commissioner with the Government of India.
23. Rodger, Mr. A., O.B.E., I.F.S., Officiating Inspector General of Forests, Dehra Dun.
24. Sams, Mr. H. A., C.I.E., I.C.S., Deputy Director General of Posts and Telegraphs.
25. Sayer, Mr. M. W., B.A., I.A.S., Secretary, Sugar Bureau, Pusa.
26. Shaw, Dr. F. J. F., D.Sc., A.B.C.S., F.L.S., I.A.S., Officiating Imperial Economic Botanist, Agricultural Research Institute, Pusa.
27. Shuldham, Captain W. F. Q., I.A., Assistant Commissioner, Ajmer-Merwara.
28. Smith, Mr. W., Imperial Dairy Expert, Imperial Institute of Animal Husbandry and Dairying, Bangalore.

29. Venkatraman, Rao Bahadur T. S., B.A., I.A.S., Government Sugarcane Expert, Sugarcane Breeding Station, Coimbatore.
30. Walton, Mr. J. H., M.A., M.Sc., I.A.S., Imperial Agricultural Bacteriologist, Agricultural Research Institute, Pusa.
31. Ware, Mr. F., F.R.C.V.S., I.V.S., Officiating Director, Imperial Institute of Veterinary Research, Muktesar.
32. Warth, Mr. F. J., B.Sc., M.Sc., I.A.S., Physiological Chemist, Imperial Institute of Animal Husbandry and Dairying, Bangalore.

Bombay

33. Bhagwat, Mr. K. R., Representative, Irrigators' Central Committee, Deccan Canals.
34. Bruen, Mr. E. J., I.A.S., Livestock Expert.
35. Burns, Dr. William, D.Sc.(Edin.), I.A.S., Joint Director of Agriculture.
36. Burt, Mr. B.C., M.B.E., B.Sc., I.A.S., Secretary, Indian Central Cotton Committee.
37. Calvoceossi, Mr. Stephen, Head Manager, Ralli Brothers, Bombay.
38. Collins, Mr. G. F. S., O.B.E., I.C.S., Registrar, Co-operative Societies.
39. Desai, Rao Sahib Bhimbhai M., Deputy Director of Agriculture, Gujarat.
40. Desai, Rao Sahib Dadubhai Purshottamdas, F.R.H.S., M.L.C., Landholder, Nadiad.
41. Desai, Rao Bahadur Govindbhai H., Naib Dewan, Baroda.
42. Devadhar, Mr. G. K., M.A., C.I.E., President, Bombay Provincial Co-operative Institute.
43. Edie, Mr. A. G., I.F.S., Chief Conservator of Forests.
44. Farbrother, Mr. E. S., M.R.C.V.S., I.V.S., Superintendent, Civil Veterinary Department.
45. Fotiadi, Mr. A., Manager, Ralli Brothers, Bombay.
46. Goheen, Mr. J. L., B.A., Principal, Sangli Industrial and Agricultural School, Sangli, and in charge, Kolhapur Farm School, Kolhapur.
47. Gordon, Mr. R. G., I.C.S., Collector, Nasik.
48. Gurjar, Mr. N. W., Secretary of Messrs. Kirloskar Brothers, Ltd.
49. Harrison, Mr. R. T., I.S.E., Secretary and Chief Engineer for Irrigation, Public Works Department.
50. Inglis, Mr. C. C., B.A.I., I.S.E., Executive Engineer, Special Irrigation Division.
51. Jenkins, Mr. W. J., M.A., B.Sc., I.A.S., Officiating Secretary of the Indian Central Cotton Committee.
52. Karmarkar, Mr., Secretary, Gadag Co-operative Cotton Sale Society, Dharwar.
53. Kay, Sir Joseph, Kt., Vice-President, Indian Central Cotton Committee.
54. Kembhavi, Mr. N. R., Managing Agent, The Bijapur Mahalaxmi Company.
55. Kirloskar, Mr. L. K., Chief Manager, Messrs. Kirloskar Brothers, Ltd.
56. Knight, Mr. H. F., B.A., I.C.S., Collector of West Khandesh.
57. Kothawala, Mr. Nariman R., President, The South Daskroi Taluka Development Association, Ahmedabad.
58. Lory, Mr. F. B. P., M.A., I.E.S., Director of Public Instruction.
59. Lowsley, Mr. C. O., I.S.E., Superintending Engineer (special duty).
60. Mann, Dr. Harold H., D.Sc., I.A.S., Director of Agriculture.
61. Maxwell, Mr. R. M., M.A., C.I.E., I.C.S., Collector of Kaira.
62. Mehta, Mr. J. K., Secretary, The Indian Merchants' Chamber.
63. Mehta, Sir Lalubhai Samaldas, Kt., C.I.E., Bombay.
64. Mehta, Mr. V. L., B.A., Managing Director, Bombay Provincial Co-operative Bank, Ltd., Bombay.
65. McIlhish, Lieut.-Colonel H. M. H., D.S.O., I.M.S., Director of Public Health.
66. Nagpurkar, Mr. S. D., M.Ag., of the Union Agency, Pona (Manures).

67. Naik, Rao Bahadur Bhimbhai R., President, District Local Board, Surat, and Member, Indian Central Cotton Committee.
68. Naik, Mr. V. H., M.A., Bar.-at-Law, Collector of Bijapur.
69. Palmer, Ensign, representing the Salvation Army Social Work.
70. Patel, Mr. B. S., N.D.D., N.D.A., C.D.A.D., I.A.S., Professor of Agriculture, Agricultural College, Poona.
71. Patil, Rao Bahadur P. C., L. Ag., M.Sc., I.A.S., Professor of Agricultural Economics and Acting Principal, Agricultural College, Poona.
72. Peck, Major C. E., representing the Salvation Army Social Work.
73. Ransing, Mr. B. R., B.A., LL.B., Honorary Secretary, Dhulia Taluka Agricultural Association and Member of the Divisional Board of Agriculture, North Central Division.
74. Rothfield, Mr. Otto, B.A., I.C.S. (Retired), Khairpur State.
75. Salimath, Mr. S. S., B.Ag., Deputy Director of Agriculture, Southern Division.
76. Shirahatti, Rao Sahib G. S., Managing Director, Hubli Co-operative Cotton Sale Society, Ltd.
77. Sule, Mr. R. G., L.C.E., I.S.E., Executive Engineer.
78. Walchand Hirachand, Mr., President, Indian Merchants' Chamber.

Madras

79. Aitchison, Mr. D. A. D., M.R.C.V.S., M.P.S., I.V.S., Veterinary Adviser to the Government of Madras.
80. Anstead, Mr. Rudolph D., M.A., C.I.E., I.A.S., Director of Agriculture.
81. Bazul-lah, Khan Bahadur M., Sahib Bahadur, C.I.E., O.B.E., Director of Industries.
82. Champion, Mr. Herbert, M.A., I.E.S., Principal, Teachers' College, Saidapet.
83. Deivasikhamani Mudaliyar, Rao Sahib K., Joint Registrar of Co-operative Societies.
84. Hood, Mr. H. M., I.C.S., Registrar of Co-operative Societies.
85. Hutchinson, Major-General F. H. G., C.I.E., I.M.S., Surgeon-General with the Government of Madras.
86. Keith, Mr. J. W., Representative of Messrs. Parry & Co.
87. Leach, Mr. A. G., I.C.S., Collector of North Arcot.
88. Macmichael, Mr. N., C.S.I., I.C.S., First Member, Board of Revenue.
89. Mullings, Mr. C. T., I.S.E., Chief Engineer for Irrigation.
90. Munro, Mr. D. G., B.Sc., I.A.S., General Scientific Officer, United Planters' Association of Southern India.
91. Narasimharaju, Rao Bahadur C. V. S., M.L.C., Landholder, Vizagapatam.
92. Paddison, Sir George, K.B.E., C.S.I., I.C.S., Commissioner of Labour.
93. Paul, Mr. K. T., O.B.E., B.A., National Secretary, National Council of the Y.M.C.A.'s of India, Burma and Ceylon, Salem.
94. Raja of Kollengode, Raja Sir Vasudeva, Kt., C.I.E., Landholder, Malabar.
95. Rama Rao, Mr. N., Superintendent, Sericultural Department, Mysore Government.
96. Ramaswami Sivan, Rao Sahib M. R., B.A., I.A.S., Government Lecturing Chemist, Agricultural College, Coimbatore.
97. Ramdas, the Honourable Mr. V., Representative of the Madras Provincial Co-operative Union.
98. Ranganatha Mudaliyar, Mr. A., B.A., B.L., M.L.C., Madras.
99. Reddi Nayudu, Sir K. V., Kt., B.A., B.L., M.L.C., Landholder, Madras.
100. Russell, Major A. J. H., C.B.E., M.D., D.P.H., I.M.S., Director of Public Health.
101. Sivaswami, Mr. K. G., Representative of the Madras Provincial Co-operative Union.
102. Subbarayan, Dr. P., M.L.C., Zamindar of Kumaramangalam.
103. Subramanya Mudaliyar, Mr. M. T., Proprietor of Uttamapalayam Estate.
104. Sutherland, Rev. W. S., B.D., United Free Church Mission, Chingleput.

105. Tireman, Mr. H., C.I.E., I.F.S., Chief Conservator of Forests.
 106. Wood, Mr. C. E., Representative of Messrs. Parry & Co.

Bengal

107. Ahmed, Khan Bahadur Maulvi Emaduddin, B. L., Chairman, District Board, Rajshahi.
 108. Ahmed, Khan Bahadur Maulvi Hemayat Uddin, Pleader, Barisal.
 109. Ahmed, Khan Bahadur Maulvi Wasimuddin, Chairman, District Board, Pabna.
 110. Bentley, Dr. C. A., M.B., D.P.H., D.T.M. & H., Director of Public Health.
 111. Burrows, Mr. L., B.A., Collector of Faridpur.
 112. Carpenter, Mr. P. H., Representative of the Indian Tea Association.
 113. Chatterjee, Rai Bahadur Dr. G. C., Secretary, The Central Co-operative Anti-Malaria Society, Limited, Calcutta.
 114. Chaudhuri, Mr. Prabhat Chandra, I.A.S., Deputy Director of Sericulture, Bengal, Berhampore (Murshidabad).
 115. Crawford, Mr. T. C., Representative of the Indian Tea Association.
 116. Das, Rai Bahadur A. N., B.E., I.S.E., Officiating Chief Engineer and Secretary to the Government of Bengal, Irrigation Department.
 117. Finlayson, Mr. J. T., Representative of the Indian Jute Mills Association.
 118. Finlow, Mr. R. S., B.Sc., F.L.C., I.A.S., Director of Agriculture.
 119. Hutchinson, Mr. C. M., C.I.E., Late Imperial Agricultural Bacteriologist, Calcutta.
 120. Kerr, Mr. P. J., M.R.C.V.S., I.V.S., Veterinary Adviser to the Government of Bengal.
 121. Maurer, Mr. F. E., Manager, Fertiliser Department, Messrs. Shaw Wallace and Company, Calcutta.
 122. McLesn, Mr. K., B.Sc., I.A.S., Assistant Director of Agriculture.
 123. Milligan, Mr. J. A., Representative of the Indian Tea Association.
 124. Mitra, Rai Bahadur J. M., M.A., Registrar of Co-operative Societies.
 125. Momen, Khan Bahadur M. A., Magistrate-Collector and late Officiating Director of Land Records and Surveys.
 126. Morgan, Mr. G., M.L.C., Proprietor, Morgan Walker and Company, Calcutta.
 127. Mukherjee, Mr. Nagendra Nath, B. L., Secretary, Ranaghat Central Co-operative Bank, Limited, Ranaghat.
 128. Mullick, Rai Bahadur Kumud Nath, Ranaghat.
 129. Oaten, Mr. E. F., M.A., I.E.S., M.L.C., Director of Public Instruction.
 130. Peddie, Mr. James, M.A., I.C.S., Collector, Malda.
 131. Ray, Sir P. C., Kt., D.Sc., University College of Science and Technology, Calcutta.
 132. Roy, Mr. S. N., Representative of a Deputation from certain districts.
 133. Shebbeare, Mr. E. O., I.F.S., Conservator of Forests.
 134. Sime, Mr. J., Representative of the Indian Jute Mills Association.
 135. Simpson, Mr. J. W. A., Representative of the Indian Jute Mills Association.
 136. Soutar, Mr. W. J., Representative of the Indian Jute Mills Association.
 137. West, Mr. M., M.A., I.E.S., Principal, Teachers' Training College, Dacca.

Assam

138. Barthakur, Srijut Laksheswar, I.A.S., Deputy Director of Agriculture.
 139. Barua, Rai Bahadur K. L., B.L., Director of Agriculture and Industries and Registrar of Co-operative Societies.
 140. Barua, Rai Sahib Narayan, Honorary Correspondent, Agricultural Department.
 141. Chakravarty, Mr. Dijesh Chandra, M.A., B.L., Dewan, Gauripur Raj Estate.
 142. Cunningham, Mr. J. R., M.A., C.I.E., Director of Public Instruction.
 143. Harris, Mr. W., M.R.C.V.S., I.V.S., Superintendent, Civil Veterinary Department,

144. Lahiri, Mr. Mohendra Mohan, B.L., Pleader, Gauhati.
145. Mc Kercher, Mr. W. G., General Manager, Amgoorie Tea Estates, Limited, and Vice-Chairman, Assam Branch of the Indian Tea Association.
146. Mitra, Dr. S. K., M.S., Ph.D., I.A.S., Economic Botanist.
147. Murison, Major T. D., D.P.H., I.M.S., Director of Public Health.
148. Ross, Dr. Halford, Assam Frontier Tea Company, Limited, Talup.
149. Scott, Mr. W. L., I.C.S., Director of Land Records.
150. Sema, Luzeku, Representing the Sema Nagas (a tribe of the Naga Hills).

Central Provinces

151. Allan, Mr. R. G., M.A., I.A.S., Principal, Agricultural College, Nagpur.
152. Amanat Ali, Mr., Landholder, Burhanpur, Khandwa.
153. Beckett, Mr. R. H., I.E.S., Officiating Director of Public Instruction.
154. Bhargava, Mr. Shyam Sundar, Managing Proprietor, Messrs. Chandrabhan Behari Lal, Jabulpore.
155. Brahma, Rao Bahadur K. V., B.A., LL.B., M.B.E., President, Berar Co-operative Institute, Limited, Amraoti.
156. Burton, Mr. G. P., I.C.S., Deputy Commissioner, Raipur.
157. Chhotelal, Mr., Extra-Assistant Commissioner, Raipur.
158. Deshpande, Rao Bahadur M. G., Landholder, Nagpur.
159. Dokras, Mr. M. R., Pleader, Chandur, Amraoti.
160. Dubey, Mr. Ramcharan Lal, Retired Agricultural Assistant, Waraseoni, Balaghat.
161. Dwarkanath Singh, Rai Sahib Dadu, Talukdar, Seoni.
162. Irwin, Mr. C. J., C.I.E., I.C.S., Commissioner, Jabulpore Division.
163. Khaparde, Mr. B. G., B.A., LL.B., M.L.C., Amraoti.
164. Korde, Rao Sahib T. S., M.L.C., Landlord, Murtizapur, Akola.
165. Pande, Mr. K. P., LL.B., M.L.C., Representing the Tahsil Agricultural Association, Sihora, Jabulpore.
166. Pandeya, Mr. Fumshottam Prasad, Malguzar, Balpur, Bilaspur.
167. Peterson, Mr. H. H., B.A., Secretary, Y. M. C. A., and President, The Empress Mills Co-operative Stores, Limited, Nagpur.
168. Plymen, Mr. F. J., A.C.G.I., I.A.S., Director of Agriculture.
169. Pochory, Mr. Kaluram, Representing the Agricultural Association, Gadwarwa.
170. Pollard-Lowsley, Col. H. de L., C.M.G., C.I.E., D.S.O., Chief Engineer, Irrigation.
171. Powar, Rai Bahadur Tundi Lal, B.A., I.A.S., Deputy Director of Agriculture, Raipur.
172. Sahasrabudhe, Rao Sahib G. N., Pleader, Ellichpur, Amraoti.
173. Trivedi, Mr. C. M., I.C.S., Registrar of Co-operative Societies, Director of Industries, and Registrar, Joint Stock Companies.
174. Webb, Lieut.-Colonel H. G. Stiles, D.P.H., D.T.M. & H (Camb.), I.M.S., Officiating Director of Public Health.
175. Wilson, Mr. C. W., M.R.C.V.S., I.V.S., Veterinary Adviser to Government.
176. Witt, Mr. D. O., I.F.S., Chief Conservator of Forests.

United Provinces

177. Abdul Hameed Khan, Rao Sahib Rao, of Kairi, Landholder, Muzaaffarnagar.
178. Adiram Singhal, Babu, Singhal Dairy Farm, Agra.
179. Ahmed, Syed Tofail, Retired Sub-Registrar, Aligarh.
180. Channer, Mr. F. F. R., I.F.S., Chief Conservator of Forests.
181. Chaudhury, Mukhtar Singh, M.L.A., Pleader, Meerut.
182. Chintamani, Mr. C. Y., Editor, "The Leader," Allahabad.

183. Clarke, Mr. G., F.I.C., F.C.S., H.L.S., C.I.E., M.L.C., I.A.S., Director of Agriculture.
184. Darley, Mr. B. D'O., C.I.E., I.S.E., Secretary to the Government of the United Provinces, Public Works Department, Irrigation Branch.
185. Deerr, Mr. Noel, Representing Indian Producers' Association, Cawnpore.
186. Dunn, Lieut.-Colonel. C. L., D.P.H., I.M.S., Director of Public Health.
187. Fawkes, Mrs. A. K., Secretary, United Provinces Poultry Association.
188. Fowler, Dr. Gilbert, Head of the Research Department, Government Technological Institute, Cawnpore.
189. Hickey, Captain S. G. M., M.R.C.V.S., I.V.S., Veterinary Adviser to the Government of the United Provinces.
190. Higginbottom, Mr. Sam, Principal, Allahabad Agricultural Institute.
191. Ishwar Sahai, Rai Bahadur Lala, Landlord, Man Bhawan, Fatehpur.
192. Jagannath Baksh Singh, Raja, Landholder, Rahwan, Rae Bareilly.
193. Keventer, Mr. Edward, of Edward Keventer Ltd., Aligarh.
194. Keventer, Mr. Werner, of Edward Keventer Ltd., Aligarh.
195. Kirpal Singh, Sardar, Landholder, Sardar Nagar, Gorakhpur.
196. Kushal Pal Singh, Raja, M.L.C.
197. Lane, Mr. H. A., I.C.S., Revenue and Judicial Secretary to Government.
198. Mackenzie, Mr. A. K., M.A., B.Sc., I.E.S., Director of Public Instruction and Deputy Secretary to the Government of the United Provinces, Education Department, Lucknow.
199. Malaviya, Pandit Madan Mohan, M.L.A., Vice-Chancellor of the Benares Hindu University.
200. Misra, The Honourable Mr. Shyam Bihari, Member, Council of State and Registrar, Co-operative Societies, Lucknow.
201. Mukherjee, Dr. Radhakamal, Ph.D., Professor and Head of the Department of Economics and Sociology, University of Lucknow.
202. Oakden, Mr. R., I.C.S., Commissioner, Meerut Division.
203. Pant, Pundit Govind Ballabh, M.L.C., Naini Tal.
204. Parr, Dr. A. E., Ph.D., M.A., B.Sc., M.S., I.A.S., Deputy Director of Agriculture.
205. Parr, Mr. C. H., B.Sc., I.A.S., Deputy Director of Agriculture, in charge of cattle breeding operations.
206. Ryan, Mr. J. G., Secretary, Indian Sugar Producers' Association.
207. Shakespear, Mr. A. B., C.I.E., Chairman, Indian Sugar Producers' Association.
208. Sukhbir Sinha, The Honourable Lala, Representing the United Provinces Zamindars' Association, Muzaffarnagar.
209. Vick, Mr. F. Howard, M.I. Mech. E., Agricultural Engineer to Government.

Punjab

210. Afzal Hussain, Mr. Mohammad, M.Sc. (Pb.), M.A. (Cantab.), I.A.S., Entomologist to the Punjab Government, Agricultural College, Lyallpur.
211. Anderson, Sir George, Kt., M.A., C.I.E., Director of Public Instruction.
212. Batty, Lieut.-Colonel B. C., D.S.O., A.M., R.E., A.I.C.E., A.M.I.E.E., etc., Chief Engineer, Public Works Department, Hydro-Electric Branch.
213. Branford, Mr. R., M.R.C.V.S., I.V.S., Livestock Expert to the Government of the Punjab and Superintendent, Government Cattle Farm, Hissar.
214. Brayne, Mr. F. L., M.C., I.C.S., Deputy Commissioner, Gurgaon.
215. Brownlie, Mr. T. A. Miller, M.C.E., M.I.W.E., M.I.M. & C.E., Agricultural Engineer to Government of Punjab, and Principal, Agricultural College, Lyallpur.
216. Bunting, Mr. S. A., of Messrs. Duncan, Stratton & Company, Delhi.
217. Chopra, Rai Bahadur Lala Wazir Chand, B.A., M.I.C.E., M.I.E. (Ind.), F.R.S.A., Superintending Engineer, Lower Chenab East Circle, Lyallpur.
218. Cole, Colonel E. H., Coleyana Estate, Ltd., Okara, Montgomery.

219. Darling, Mr. M. L., I.C.S., Commissioner of Income Tax, Punjab and N. W. F. P., Lahore.
220. Fazl Ali, Khan Bahadur Chaudhri, M.B.E., President, Gujrat Central Co-operative Bank.
221. Forster, Colonel D. C. H., M.B., D.P.H., I.M.S., Director of Public Health.
222. Ghulam Hasan Khan, Mr., Honorary Secretary, The Mianwali Central Co-operative Bank, Ltd., Mianwali.
223. Gordon, Major R. E., R.E., M.C., Special Officer, North Western Railway.
224. Govan, Mr. R. E. Grant, of Govan Brothers, Ltd. Delhi.
225. Gulshan Rai, Lala, M.A., Professor, Sanatan Dharma College, Lahore.
226. Hardit Singh, S., of Messrs. Hardit Singh & Sons, Fruit Farmers and Nurserymen, Mona R. D.
227. King, Mr. C. M., C.S.I. C.I.E., I.C.S., Financial Commissioner.
228. Lalchand, Rao Bahadur Chaudhuri, President, State Council, Bharatpur.
229. Lander, Dr. P. E., M.A. (Cantab.), D.Sc. (London), A.I.E., I.A.S., Agricultural Chemist, Agricultural College, Lyallpur.
230. Mayes, Mr. W., F.C.H., I.F.S., Chief Conservator of Forests.
231. Mehdi Shah, Khan Bahadur Sayad Sir, K.C.I.E., O.B.E., Landlord, Gojra.
232. Milne, Mr. D., C.I.E., I.A.S., Director of Agriculture.
233. Mitchell, Mr. K. G., A.M.I.C.E., A.M.Inst.I., Secretary, Communications Board.
234. Myles, Mr. W. H., M.A., I.E.S., Professor of Economics, Punjab University, and Honorary Secretary, Board of Economic Enquiry.
235. Naraindra Nath, Dewan Bahadur Raja, M.A., M.L.C., Lahore.
236. Nawaz Khan, Sardar Muhammad, I.A.R.O., M.L.A., of Kot-Fateh-Khan, Attock.
237. Quirke, Mr. T. F., M.R.C.V.S., I.V.S., Chief Superintendent, Civil Veterinary Department.
238. Sampuran Singh, Sardar, Barrister-at-Law, Honorary Secretary, Lyallpur Central Co-operative Bank, Ltd., Lyallpur.
239. Sangster, Mr. W. P., C.S.I., C.I.E., Chief Engineer, Irrigation Works.
240. Shiv Dev Singh, Mr., Honorary Magistrate, Siranwali, Sialkot.
241. Smith, Mr. J. B. G., Chief Engineer, Irrigation.
242. Strickland, Mr. C. F., I.C.S., Registrar of Co-operative Societies.
243. Taylor, Mr. W., I.V.S., Officiating Principal, Veterinary College.
244. Townsend, Mr. C. A. H., C.I.E., I.C.S., Commissioner, Jullundur Division, Punjab, and Ex-Director of Agriculture.
245. Trought, Mr. Trevor, M.A., Cotton Research Botanist, Lyallpur.
246. Ujjal Singh, Mr., M.A., M.L.C., Lahore.
247. Walton, Colonel C., D.S.O., R.E., Agent, North Western Railway.
248. White, Mr. N., Chief Engineer of the Southern Canals and Secretary of the Irrigation Branch.
249. Wilsdon, Mr. B. H., M.A., B.Sc. (Oxon), I.E.S., Scientific Research Officer attached to the Irrigation Research Laboratory.
250. Wilson, Mr. W. R., I.C.S., Deputy Commissioner, Jhelum.

North-West Frontier Province

251. Abdul Matin Khan, Khan Sahib, Landholder, Takhti-Bai Mardan, Pesbawar.
252. Abdul Rahim Khan, Khan Bahadur, M.B.E., Barrister-at-Law, Gul Imam.
253. Gilani, Syed Pir Kamal, L.Ag., Landholder, Jangal Khel, Kohat.
254. Khushal Khan, Mr., Landholder, Barikab (Mardan).
255. Mohammad Aslam Khan, Khan Sahib, Honorary Magistrate and Zamindar of Mardan.
256. Noel, Major E. W. C., C.I.E., D.S.O., Political Agent, Kurram.

- 257. Robertson-Brown, Mr. W., Agricultural Officer.
- 258. Sadullah Khan, Khan Bahadur, Assistant Commissioner and Landlord, Peshawar.
- 259. Walker, Mr. S., B.E., A.M.I.C.E., Secretary for Irrigation.
- 260. Wylie, Mr. F. V., I.C.S., Settlement Officer, Peshawar.

England

- 261. Adams, Professor W. G. S., M.A., All Souls College, Oxford, Chairman, National Council of Social Service, London.
- 262. Anderson, Mr. D. A., of Messrs. Caird (Dundee), Ltd.
- 263. Barber, Dr. C. A., C.L.E., D.Sc., Lecturer on Tropical Agriculture, School of Agriculture, Cambridge University.
- 264. Biffen, Sir Rowland, Kt., M.A., F.R.S., Director of Plant Breeding Institute, and Professor, Agricultural Botany, Cambridge University.
- 265. Brady, Capt. S. E. J., M.B.E., Board of Trade.
- 266. Buckpitt, Mr. F. J. W., J.P., Representing the Rope, Twine and Net Manufacturers' Association.
- 267. Butler, Dr. E. J., C.I.E., D.Sc., M.B., F.R.S., Imperial Bureau of Mycology, Kew, Surrey.
- 268. Buxton, Professor J. O. S., M.A., F.R.C.V.S., Professor of Comparative Pathology and Director of Animal Pathology, University of Cambridge.
- 269. Carmichael, Mr. L. T., Representative of Indian Tea Association, London.
- 270. Chadwick, Sir David, C.S.I., C.I.E., Secretary, Imperial Economic Committee.
- 271. Demetriadi, Sir Stephen, K.B.E., Representing the London Chamber of Commerce and Messrs. Ralli Bros.
- 272. Elliot, Major Walter, M.P., M.C., D.Sc., Under Secretary of State for Scotland.
- 273. Engledow, Mr. F. L., M.A., Director of Advanced Students and Lecturer, School of Agriculture, Cambridge University.
- 274. Faber, Mr. H., Agricultural Commissioner to the Danish Government.
- 275. Fagan, Sir Patrick, K.C.I.E., C.S.I., I.C.S. (Retired).
- 276. Floud, Sir Francis L.C., K.C.B., Permanent Secretary to the Ministry of Agriculture and Fisheries.
- 277. Foley, Mr. Edward A., Ph.D., Agricultural Commissioner of the United States of America.
- 278. Frost, Mr. J. E., Director, the British Oil and Cake Mills, Ltd.
- 279. Furse, Lieut.-General Sir William, K.C.B., D.S.O., Director, Imperial Institute, London.
- 280. Gaiger, Professor S. H., F.R.C.V.S., Professor of Veterinary Pathology, University of Liverpool.
- 281. Gebbie, Sir Frederick, Kt., C.I.E., ex-Inspector General of Irrigation with the Government of India.
- 282. Goodwyn, Mr. J. A., Director of Messrs. Ransomes, Sims and Jafferies.
- 283. Goulding, Dr. E. J., Secretary; Representative of the Advisory Committee on Vegetable Fibres, Imperial Institute.
- 284. Grantham, Mr. V. A., of Messrs. Forbes Forbes Campbell and Co., Ltd.
- 285. Groening, Mr. C. D., Manager, Agricultural Division of the Fertiliser Sales, Ltd.
- 286. Hall, Sir Daniel, K.C.B., M.A., F.R.S., Director, John Innes Horticultural Institute, Merton.
- 287. Henry, Mr. E., representing the London Jute Association.
- 288. Howard, Mr. Albert, C.I.E., M.A., I.A.S., Director, Institute of Plant Industry, Indore, and Agricultural Adviser to States in Central India.
- 289. Jarrett, Mr. A. E., of Jarrett Bros., London.
- 290. Jones, Mr. T., Secretary, Committee of Civil Research.
- 291. Julius, Mr. G. A., Chairman, Australian Commonwealth Council for Scientific and Industrial Research.

292. Keatinge, Mr. G. F., C.I.E., I.C.S. (retired).
293. Keen, Dr. B. A., D.Sc., F.Inst.P., Assistant Director, Rothamsted Experimental Station.
294. Knight, Mr. Jasper, representing Messrs. Jurgens, Ltd.
295. Lindsay, Mr. H. A. F., C.I.E., C.B.E., I.C.S., Indian Trade Commissioner, London.
296. Littlewood, Mr. James, representing the Oldham Master Cotton Spinners' Association.
297. MacPhail, Rev. Dr. E. M., C.I.E., C.B.E., M.L.A., *ex-Vice-Chancellor* of the University of Madras and *ex-Principal* of the Madras Christian College.
298. McFadyean, Sir John, M.D., B.Sc., M.R.C.V.S., LL.D., Principal, Royal Veterinary College, London.
299. McLeod, Major Norman, representing the Indian Tea Association (London).
300. Malcolm, Colonel G. A., D.S.O., Chairman, London Jute Association.
301. Nash, Mr. Vaughan, C.B., C.V.O., Vice-Chairman, Development Commission.
302. Ormsby Gore, The Right Hon. W. G. A., M.P., Under Secretary of State for the Colonies.
303. Orr, Dr. J. B., D.S.O., M.C., F.R.S.E., Director, The Rowett Research Institute, Aberdeen.
304. Pelly, Mr. E. Godfrey, of Messrs. John Fowler and Co. (Leeds), Ltd.
305. Pfister, Mr. H. F., Manager of Messrs. Ralli Bros.
306. Prain, Lieut.-Colonel Sir David, C.M.G., C.I.E., F.R.S., *ex-Superintendent* of Cinchona Cultivation in Bengal, and Chairman of the Advisory Council for Plant and Animal products at the Imperial Institute, London.
307. Robson, Sir Herbert, K.B.E., of Messrs. Ross T. Smyth & Co., Ltd.
308. Rowland, Mr. G. E., Chairman of Agricultural and General Engineers, Ltd., Richard Garrett & Sons, Ltd., James and Fredk. Howard, Ltd., President of the Agricultural Engineers' Association, and Member of the Advisory Committee of the Department of Overseas Trade.
309. Russell, Sir John, Director of the Rothamsted Experimental Station.
310. Scott, Mr. G. Erskine, of Messrs. James Scott & Sons, Ltd. (representing the Jute Importers' Association, Dundee).
311. Shearer, Professor E., M.A., B.Sc., Professor of Agriculture, University of Edinburgh and Principal, Edinburgh and East of Scotland College of Agriculture.
312. Speyer, Mr. F. C. O., General Manager, Nitram, Ltd., and British Sulphate of Ammonia Federation, Ltd.
313. Steiner, Mr. E., Representing Messrs. Volkart Brothers, London.
314. Swan, Mr. J., of Messrs. Steel Brothers & Co., Ltd.
315. Taylor, Mr. C. H., Wheat Department, Messrs. Ralli Brothers.
316. Walker, Sir Gilbert, C.S.I., M.A., Sc.D., F.R.S., Professor of Meteorology, Imperial College of Science and Technology.
317. Ward, Sir Thomas, Kt., C.I.E., M.V.O., *ex-Inspector General* of Irrigation with the Government of India.
318. Wigglesworth, Mr. Alfred, of Messrs. Wigglesworth & Co., Ltd.
319. Willson, Mr. L., Freights' Department, Messrs. Ralli Brothers.
320. Wilson, Mr. W. A., Agricultural Products' Representative of the Federal Government of Canada.
321. Wood, Professor T. B., C.B.E., M.A., Drapers Professor of Agriculture, School of Agriculture, University of Cambridge.

Sind

322. Abdur Rahman, Khan Bahadur Gulmahomed, Acting Deputy Director of Agriculture.
323. Aitchison, Mr. P. E., I.F.S., Conservator of Forests.

324. Bahadurkhan Khoso, Khan Bahadur Dilmuradkhan President, Jacobabad Municipality.
325. Bhutto, Khan Bahadur Shah Nawaz Khan, C.I.E., O.B.E., Landholder.
326. Dow, Mr. H., B.A., I.C.S., Revenue Officer, Lloyd Barrage and Canals Scheme.
327. Harrison, Mr. C.S.C., I.S.E., Chief Engineer, Lloyd Barrage and Canals Construction.
328. Hussain, Khan Bahadur Nabi Baksh Muhammad, M.A., LL.B., Manager, Encumbered Estates in Sind.
329. Inayatalkhan, Khan Bahadur Azimkhan, Assistant Registrar, Co-operative Societies.
330. Jeswani, Mr. T. K., Representing the Karachi Indian Merchants' Association.
331. Jerrom, Mr. J. H. G., I.C.V.D., Superintendent, Civil Veterinary Department, Sind and Rajputana.
332. Musto, Mr. A. A., C.I.E., M.Inst.C.E., I.S.E., Superintending Engineer, Lloyd Barrage Circle.
333. Shahani, Mr. S. C., M.A., Principal, D.J. Sind College and Secretary, Sind Collegiate Board.
334. Shewakram, Rao Sahib Udharam, Zamindar, Guni, Hyderabad.

Burma

335. Aung, U Tun, Representative of Co-operators from Lower Burma.
336. Bulkeley, Mr. J. P., M.A., I.E.S., Officiating Director of Public Instruction.
337. Charlton, Mr. J., M.Sc., F.I.C., I.A.S., Principal, Agricultural College, Mandalay.
338. Dan, Mr. Daniel Po, Barrister-at-Law, Tharrawaddy.
339. Dawson, Mr. L., Representing Dawson's Bank, Limited.
340. Dumont, Mr. J. L., B.Sc. (Edin.), Landholder.
341. Dun, U Aung, A.T.M., Rice Miller, Mandalay.
342. Dunn, Mr. C. W., C.I.E., I.C.S., Officiating Financial Commissioner (Transferred Subjects).
343. Edwards, Mr. E. L., Representing Messrs. Steel Brothers & Co., Ltd.
344. Gale, U Maung, Representative of Agriculturists from Lower Burma.
345. Gale, U Yin, Representative of Co-operators from Upper Burma.
346. Ghosh, Mr. C. C., B.A., F.E.S., Entomologist, Agricultural College, Mandalay.
347. Gyi, U Yin, Representative of Agriculturists from Upper Burma.
348. Han, U Po, Representative of Agriculturists from Lower Burma.
349. Hendry, Mr. D., M.C., I.A.S., Deputy Director of Agriculture, Southern Circle.
350. Hmaw, U Lu, Representative of Agriculturists from Upper Burma.
351. Hopwood, Mr. S. F., M.C., Officiating Chief Conservator of Forests.
352. Jevons, Professor H. Stanley, M.A., B.Sc., F.S.S. F.G.S., Professor of Economics, University of Rangoon.
353. Jolly, Major G. G., C.I.E., M.B., Ch.B., D.P.H., D.T.M.&H., I.M.S., Officiating Director of Public Health.
354. Maung, U Ba, (i) Representative of Co-operators from Lower Burma.
355. Maung, U Ba, (ii) Representative of Co-operators from Lower Burma.
356. Maung, U Khin, B.A., M.L.A.
357. McKerral, Mr. A., M.A., B.Sc., I.A.S., Director of Agriculture.
358. Nelson, Mr. J. J., Representing Messrs. Steel Brothers & Co., Ltd.
359. Nyun, U, Representative of Co-operators from Upper Burma.
360. Pan, Mr. Saya, Representative of Agriculturists from Lower Burma.
361. Rippon, Captain S. R., M.R.C.V.S., I.V.S., Superintendent, Civil Veterinary Department, South-Eastern and South-Western Circles.
362. Robertson, Mr. H. F., B.Sc., I.A.S., Deputy Director of Agriculture, Myingyan Circle.

363. Romex, Mr., Representative of Co-operators from Lower Burma.
364. Sein, U, Manager, The Burma Provincial Co-operative Bank, Limited, Mandalay.
365. Shwe, U, Representative of Co-operators from Upper Burma.
366. Stuart, Mr. J. D., A.M.I.C.E., M.I.E., Chief Engineer, Public Works Department (Irrigation).
367. Tin, U Po, Assistant Registrar, Co-operative Societies, Pegu East Division.
368. Tin, Thugyi U Ba, Representative of Agriculturists from Upper Burma.
369. Tun, U, Representative of Agriculturists from Lower Burma.
370. Tun, U Paw, A. T. M., M.L.C., Barrister-at-Law.

Bihar and Orissa

371. Atkins, Mr. C. G., The Dowlatpore Agricultural Concern, Ruseca Ghat.
372. Bery, Mr. K. R., Superintending Engineer, Irrigation.
373. Birbar Narayan Chandra, Babu, Dhir Narendra, Landholder, Garhamdhupur.
374. Blair, Mr. F. R., M.A., I.E.S., Deputy Director of Public Instruction.
375. Dobbs, Mr. A. C., Dip-in-Agriculture (Cantab.), I.A.S., Director of Agriculture.
376. Durga Prasad, Rai Bahadur, M.A., Registrar of Co-operative Societies.
377. Ganga Vishnu, Babu, Planter, Muzaffarpur.
378. Ghose, Babu Tara Prasanna, Landholder, Ranchi.
379. Gurusahai Lal, Mr., M.L.C., Vakil.
380. Henry, Mr. J., Cane Manager, Lobat Sugar Works.
381. Heycock, Mr. W. B., I.C.S., Commissioner.
382. Lambert, Mr. H., M.A., I.E.S., Officiating Director of Public Instruction.
383. Lyall, Mr. J. H., B.A., Officiating Conservator of Forests.
384. Meyrick, Mr. N., General Secretary, Bihar Planters' Association, Ltd., Motihari.
385. Muhammad Ahsan Khan, Moulvi Saiyid, Zamindar and Secretary of the Parh Agricultural Association, Barh.
386. Norris, Mrs. R. V., Director and Bio-Chemist, Lac Research Institute, Namkum.
387. Quinlan, Mr. D., M.P.C.V.S., I.V.S., Director, Civil Veterinary Department.
388. Ross, Lieut. Colonel W. C., L.M.S., Director of Public Health.
389. Roy, Mr. N. K., Assistant Registrar of Co-operative Societies, Ranchi Circle.
390. Roy, Mr. S. K., M.A., Principal, Gossner High School, Ranchi.
391. Sèthi, Mr. D. R., M.A., B.Sc. (Edin.), I.A.S., Deputy Director of Agriculture.
392. Sinha, Babu Arikshan, Pleader, General Secretary, Bihar Provincial Kisan Sabha.
393. Sinha, Mr. Devaki Prasad, M.A., M.L.C., Patna.
394. Sinha, Babu Mithila Saran, Advocate, Bankipore district, Patna.
395. Tuckey, Mr. A. D., I.C.S., Director of Land Records and Surveys.

APPENDIX III

ITINERARY OF THE ROYAL COMMISSION ON AGRICULTURE IN INDIA

Simla	..	..	..	..	October	11th to 18th, 1926.
Poona	..	..	..	..	October	21st " 31st
Bombay	..	..	..	..	November	1st " 6th.
Bangalore	..	..	..	..	"	8th " 11th.
Coimbatore	..	..	..	..	"	12th " 17th.
Madras	..	..	..	..	"	18th " 27th.
Calcutta	..	..	..	..	"	29th " December 9th.
Shillong	..	..	..	..	December	11th " 17th.
Jorhat	..	..	..	..	"	18th " 19th.
Calcutta (Christmas Holidays)	..	..	..	..	"	21st ,, Jan. 3rd, 1927.
Dacca	..	..	..	..	January	4th " January 7th.
Pusa	..	..	..	..	"	9th " 14th.
Raipur	..	..	..	..	"	16th " 19th.
Nagpur	..	..	..	..	"	20th " 28th.
Hoshangabad	..	..	..	..	"	29th
Lucknow	..	..	..	..	"	30th " February 6th.
Benares	..	..	..	..	February	7th
Cawnpore	..	..	..	..	"	10th " 13th.
Agra	..	..	..	..	"	15th " 16th
Delhi	..	..	..	..	"	17th " 25th.
Hissar	..	..	..	..	"	26th.
Lahore	..	..	..	..	"	28th " March 8th.
Lyallpur	..	..	..	..	March	10th " 13th.
Sukkur	..	..	..	..	"	14th " 16th.
Peshawar	..	..	..	..	"	18th " 21st.
Bombay	..	..	..	..	"	24th " April 8th.
					(Left for England)	.. April 9th.
Karachi	..	(Arrived from England)	..	..	October	23rd " 27th.
Rangoon	..	..	..	..	November	2nd " 8th.
Mandalay	..	..	..	..	"	9th " 11th.
Patna	..	..	..	..	"	21st " 26th.
Delhi	..	..	..	..	"	29th " December 7th.
Mahabeshwar	..	..	..	..	December	10th.

APPENDIX IV

Estimated cost of maintaining a pair of bullocks for one year by a ryot in various districts in British India

PROVINCE (Locality and agricultural conditions)	ROUGHAGE		Value of roughage at local rates	CONCENTRATES		Value of concentra- tes at local rates.	Total value of rough- age and concentra- tes	
	Kind (a)	Quantity lb. per day and days fed (c)		Kind (b)	Quantity lb. per day and days fed (c)			
MADRAS								
Tiruvalur (Plough Animals).	R	25 × 365	46	O. Bran	1½ × 180 3½ × 180	22	68	
Tiruvalur (Cart Animals).	R	25 × 365	46	O Bran	2½ 7	× 365	91	137
Ramnad (Black Cotton Soil).	J	20 × 365	112	Cot. S.	6½ × 365	112	224	
Madura	R	37 × 365	136	....	....	..	136
Coimbatore Central Farm.	J, B, R, and G. G.	36 × 365	144	Gdnt. C., Cot. S., Gr., & B. D.	*	110	260	
Pollachi	J, B, R, and G. G.	29 × 365	91	Do. do.	*	124	215	
Anakapalle	R	49 × 365	91	Gdnt. C. Gram R. B. Salt	3 2 2 1 1	35	126	
SIND								
Nawabshah (Flow area).	K	{ 40 × 120 20 × 90 }	28	O	½ × 60	2*	30	
Nawabshah (Lift area).	K Grain and G.F.	{ 20-40 × 230 * × 135 }	30 ..	O	1 × 95	6	36	
BOMBAY								
Dharwar (Mallad Rocky tract).	{ R G. G.	{ 32 × 180 * 180 }	36 34	Cot. S.	4 × 150	30	100	
Dharwar (Black soil)	{ K W	{ 19 × 365 20 × 365 }	60 72	Cot. S.	6 × 183	43	175	
Dharwar (Inter- mediate).	J	{ 40 × 183 20 × 182 }	68	Cot. S.	6 × 250	60	128	
East Khandesh (dry).	{ K G. G.	{ 31 × 213 37 × 152 }	66 28	Cot. S. or O.	6 × 243	45	139	
West Khandesh (dry).	K, B, Gdnt. Fodder, Grass.	40 × 840	149	Cot. S.	4 × 121	19	168	
BENGAL								
East (Dacca, My- mensingh, etc.).	R G. G. and Weeds.	2 × 180 *	45	Mus.	1 × 180	17	62	
Central (Pabna and Nadia).	Do.	20 × 240 *	60	Mus.	1 × 240	20	80	
West (Burdwan and Bankura).	Do.	20 × 270 *	69	Mus.	1 × 91	7	76	

* No information.

PROVINCE (Locality and agricultural conditions)	ROUGHAGE		Value of roughage at local rates	CONCENTRATES		Value of concentra- tes at local rates	Total value of rough- age and concent- rates
	Kind (a)	Quantity lb. per day and days fed (c)		Kind (b)	Quantity lb. per day and days fed (c)		
UNITED PROVINCES							
Meerut	J and W plus G. G. and Weeds.	20-40*	45	O. Gr. Bhoosi, Chuni.	4-3 × 365	72	117
PUNJAB							
Gurgaon	W plus G. G. and G. F.	52 × 121 32 × 122	34 48	Cr. and O Gur, Gni, and Flour	6 × 273 *	71 12	215
Lyalpur	W G. F.	16 × 365 1½ acre	53 90	Cr. & O	8 × 80	30	173
Montgomery	W G. F.	10-40 × 365 *	106 97	Gr. & O	6 × 91	31	234
BURMA							
Lower Burma Lashio	O G. G.	50 × 274 80 × 91	48	O R. B.	2 × 100 2 × 100	14	62
Upper Burma Meikada (dry)	J & Bean Chaff G. G. and Weeds.	* × 153 * × 212	45 23	Gdnt. C., Ses.	2 × 153	10	78
Upper Burma Minbu (irrigated)	G. G., J. S. Grazing	120 × 323 42	91 ..	Ses., R. B. R. B.	2 × 122 * × 151	23 19	133
BIHAR AND ORISSA							
Cuttack	R	13-29 × 365	56	R. Dust, Cr. P.	6 × 150 *	42 24	98
Saran	G. F., Bhusa R., Bhusa, Cane Tops.	80 × 152 40 × 213	48 53	* *	4 × 152 * × 213	12	137
CENTRAL PROVINCES							
Wheat and Cotton tract.	W	30-50 × 365	158	*	3-6 × 300	53	211
Rice tract	R	40 × 365	90	*	2 × 240	15	105
ASSAM							
Sibsagar	R	10 × 121	7	R. B.	4 × 121	8	15
Sylhet	R	16 × 152	19	R. B.	4 × 152	9	28

(a) Symbols used:— J=Jowar Kadbi; B=Bajra Kadbi; M=Millet (unspecified) Kadbi; R=Rice straw; W=Wheat; Bhusa; G. G.=Green grass; G. F.=Green fodder; K=Kadbi (unspecified); S=Straw (unspecified).

(b) Symbols used:— O=Oilcake (unspecified); Cot. S.=Cotton Seed; Gdnt. C.=Groundnut cake; Gr.=Gram; R. B.=Rice bran; Mus.=Mustard cake; Ses.=Sesamum cake; Cr. P.=Crushed paddy.

(c) When the number of days for which feeding is specified is less than a year, the cattle spend the remaining days on grazings.

*No information.

APPENDIX V

Forest Policy

(Circular No. 22-F., dated 19th October 1894)

RESOLUTION.—In Chapter VIII of his report on the improvement of Indian agriculture, Dr. Voelcker dwells at length upon the importance of so directing the policy of the Forest Department that it shall serve agricultural interests more directly than at present; and, in his "Review of Forest Administration" for 1892-93, the Inspector General of Forests discusses in some detail the principles which should underlie the management of State forest in British India. While agreeing, generally, with the principles thus enunciated by the Inspector General of Forests, the Government of India think that it will be convenient to state here the general policy which they desire should be followed in this matter; more especially as they are of opinion that an imperfect apprehension of that policy has, in some recent instances, been manifested.

2. The sole object with which State forests are administered is the public benefit. In some cases the public to be benefited are the whole body of tax-payers; in others, the people of the tract within which the forest is situated; but in almost all cases the constitution and preservation of a forest involve, in greater or less degree, the regulation of rights and the restriction of privileges of user in the forest area which may have previously been enjoyed by the inhabitants of its immediate neighbourhood. This regulation and restriction are justified only when the advantage to be gained by the public is great; and the cardinal principle to be observed is that the rights and privileges of individuals must be limited, otherwise than for their own benefit, only in such degree as is absolutely necessary to secure that advantage.

3. The forests of India, being State property, may be broadly classed under the following headings:—

- (a) Forests the preservation of which is essential on climatic or physical grounds.
- (b) Forests which afford a supply of valuable timbers for commercial purposes.
- (c) Minor forests.
- (d) Pasture lands.

It is not intended that any attempt should be made to class existing State forests under one or other of these four heads. Some forests may occupy intermediate positions, and parts of one and the same forest may fall under different heads. The classification is useful only as affording a basis for the indication of the broad policy which should govern the treatment of each class, respectively; and, in applying the general policy, the fullest consideration must be given to local circumstances.

4. The first class of forests are generally situated on hill slopes, where the preservation of such vegetation as exists, or the encouragement of further growth, is essential to the protection from the devastating action of hill torrents of the cultivated plains that lie below them. Here the interests to be protected are important beyond all comparison with the interests which it may be necessary to restrict; and, so long as there is a reasonable hope of the restriction being effectual, the lesser interests must not be allowed to stand in the way.

5. The second class of State forests include the great tracts from which our supply of the more valuable timbers—teak, sal, deodar and the like—is obtained. They are for the most part (though not always) essentially forest tracts, and encumbered by very limited rights of user; and, when this is the case, they should be managed on mainly commercial lines as valuable properties of, and sources of revenue to, the State. Even in these cases, however, customs of user will for the most part have sprung up on the margins of the forest; this user is often essential to the prosperity of the people who have enjoyed it; and the fact that its extent is limited in comparison with the area under forest renders it the more easy to continue it in full. The needs of communities dwelling on the margins of forest tracts consist mainly in small timber for building, wood for fuel, leaves for manure and for fodder, thorns for fencing, grass and grazing for their cattle and edible forest products for their own consumption. Every reasonable facility should be afforded to the people concerned for the full and easy satisfaction of these needs, if not free (as may be possible where a system of regular cuttings has been established), then at low and not at competitive rates. It should be distinctly understood that considerations of forest income are to be subordinated to that satisfaction.

There is reason to believe that the area which is suitable to the growth of valuable timber has been over-estimated, and that some of the tracts which have been reserved

for this purpose might have been managed with greater profit both to the public and to the State, if the efforts of the Forest Department had been directed to supplying the large demand of the agricultural and general population for small timber, rather than the limited demand of merchants for large timber. Even in tracts of which the conditions are suited to the growth of large timber, it should be carefully considered in each case whether it would not be better, both in the interests of the people and of the revenue, to work them with the object of supplying the requirements of the general, and in particular of the agricultural, population.

6. It should also be remembered that, subject to certain conditions to be referred to presently, the claims of cultivation are stronger than the claims of forest preservation. The pressure of the population upon the soil is one of the greatest difficulties that India has to face, and that application of the soil must generally be preferred which will support the largest numbers in proportion to the area. Accordingly, wherever an effective demand for culturable land exists and can only be supplied from forest areas, the land should ordinarily be relinquished without hesitation; and if this principle applies to the valuable class of forests under consideration, it applies *a fortiori* to the less valuable classes which are presently to be discussed. When cultivation has been established, it will generally be advisable to disforest the newly-settled area. But it should be distinctly understood that there is nothing in the Forest Act, or in any rules or orders now in force, which limits the discretion of local governments, without previous reference to the Government of India (though, of course, always subject to the control of that Government) in diverting forest land to agricultural purposes even though that land may have been declared reserved forest under the Act.

7. Mention has been made of certain conditions to which the application of the principle laid down in the preceding paragraph should be subject. They have for their object the utilisation of the forest area to the greatest good of the community. In the first place, the honey-combing of a valuable forest by patches of cultivation should not be allowed; as the only object it can serve is to substitute somewhat better land in patches for sufficiently good land in large blocks, while it renders the proper preservation of the remaining forest area almost impossible. The evil here is greater than the good. In the second place, the cultivation must be permanent. Where the physical conditions are such that the removal of the protection afforded by forest growth must result, after a longer or shorter period, in the sterilization or destruction of the soil, the case falls under the principle discussed in paragraph 4 of this Resolution. So, again, a system of shifting cultivation, which denudes a large area of the forest growth in order to place a small area under crops, costs more to the community than it is worth, and can only be permitted, under due regulation, where forest tribes depend on it for their sustenance. In the third place, the cultivation in question must not be merely nominal, and an excuse for the creation of pastoral or semi-pastoral villages, which do more harm to the forest than the good they reap from it. And, in the fourth place, cultivation must not be allowed so to extend as to encroach upon the minimum area of forest which is needed in order to supply the general forest needs of the country, of the reasonable forest requirements, present and prospective, of the neighbourhood in which it is situated. In many tracts, cultivation is practically impossible without the assistance of forests, and it must not be allowed to destroy that upon which its existence depends.

8. It has been stated above that the forests under consideration are generally, but not always, free from customs of user. When, as sometimes happens, they are so intermingled with permanent villages and cultivation that customary rights and privileges militate against their management as revenue-paying properties, the principles laid down at the end of paragraph 5 of this Resolution should be observed, and considerations of income should be made secondary to the full satisfaction of local needs. Such restrictions as may be necessary for the preservation of the forest, or for the better enjoyment of its benefits, should be imposed; but no restriction should be placed upon reasonable local demands, merely in order to increase the State revenues.

9. The third class of forests include those tracts which, though true forests, produce only the inferior sorts of timber or the smaller growths of the better sorts. In some cases, the supply of fuel for manufactures, railways, and like purposes, is of such importance that these forests fall more properly under the second class, and must be mainly managed as commercial undertakings. But the forests now to be considered are those which are useful chiefly as supplying fuel and fodder or grazing for local consumption; and these must be managed mainly in the interests of the population of the tract which supplies its forest requirements from this source. The first object to be aimed at is to preserve the wood and grass from destruction; for user must not be exercised so as to annihilate its subject, and the people must be protected against their own improvidence. The second object should be to supply the produce of the forests to the greatest advantage and convenience of the people. To these two objects all considerations of revenue should ordinarily be subordinated.

10. It must not be supposed from the preceding remarks that it is the intention of the Government of India to forego all revenue from the large areas that are valuable chiefly for the fuel and fodder which they yield. Cases must be distinguished. Where the areas in question afford the only grazing and the only supply of fuel to villages which lie around or within them, the necessities of the inhabitants of these villages must be treated as paramount, and they should be satisfied at the most moderate rates and with as little direct official interference as possible. But where the villages of the tract have already ample pasture grounds attached to their cultivation and owned and managed by themselves, and where the Crown lands merely supplement these pastures, and afford grazing to a nomad pastoral population, or to the herds that shift from one portion of the country to another with the changes of the season, Government may justly expect to reap a fair income from its property. Even in such cases, however, the convenience and advantage of the graziers should be studiously considered, and the inhabitants of the locality, or those who habitually graze over it, should have a preferential claim at rates materially lower than might be obtained in the open market. It will often be advantageous to fix the grazing demand upon a village or a nomad community for a year or a term of years. The system, like every other, has difficulties that are peculiar to it; but it reduces the interference of petty officials to the lowest point, and minimises their opportunities for extortion and oppression. Where grazing fees are levied *per capita*, free passes are often given to a certain number of cattle. In such cases the cattle which are to graze free should include, not only the oxen which are actually employed on the plough, but also a reasonable number of milk cattle and calves. A cow or a buffalo is as much a necessity to a cultivator, using the word necessity in a reasonably wide sense, as is a plough-bullock; and in many parts the oxen are bred in the village.

11. In the portions of his report which are referred to in the preamble to this Resolution, Dr. Voelcker strongly recommends the formation of fuel and fodder preserves, and the Government of India have repeatedly urged the same policy upon local governments. The question whether any particular area can be made to support a greater number of cattle by preserving the grass and cutting it for fodder, or by permitting grazing upon it, is one that must be decided by the local circumstances of each case. But when it has been decided, the issues are by no means exhausted. It has been stated in paragraph 9 above that one main object towards which the management of these minor forests should be directed is the supply of fuel and fodder "to the greatest advantage and convenience of the people." In doing so, due regard must be had to their habits and wishes. It may be that strict preservation and periodical closures, or the total prohibition of grazing, will result in the largest yield both of fuel and of fodder in the form of hay. But that is of small avail if the people will not utilise the increased supply in the form in which it is offered them. The customs of generations alter slowly in India; and though much may and should be done to lead the people to their own profit, yet it must be done gently and gradually—always remembering that their contentment is no less important an object than is their material advantage. It must be remembered, moreover, that the object of excluding grazing from the preserves in question is the advantage of the neighbourhood; and that the realisation of a larger income than grazing would yield, by preserving the produce, only to sell it to the highest bidder for consumption in large towns at a distance from the preserve, is not always in accordance with the policy which the Government of India have inculcated. Here again circumstances must decide. It may be that the local supply of fuel or fodder, independently of the reserved area, is sufficient in ordinary years for the needs of the neighbourhood. In such a case the produce may legitimately be disposed of in such years to the greatest advantage, reserving it for local consumption only when the external supply runs short. Finally, the remarks regarding agency in paragraph 12, and the more general considerations that are discussed below in paragraph 13 of this Resolution, apply in full force to areas thus reserved for the supply of fuel and fodder.

12. The fourth class of forests referred to are pastures and grazing grounds proper, which are usually forests only in name. It is often convenient, indeed, to declare them forests under the Act, in order to obtain a statutory settlement of the rights which the State on the one hand, and private individuals or communities on the other, possess over them. But it by no means follows as a matter of course that these lands should be subjected to any strict system of conservation, or that they should be placed under the management of the Forest Department. The question of agency is purely one of economy and expediency; and the Government of India believe that in some cases where these lands are managed by the Forest Department, the expenditure on establishment exceeds the revenue that is, or at any rate the revenue that ought to be, realised from them.

The following remarks apply, not only to forest lands under the Act, whether administered by the Forest Department or not, but also to all Crown waste, even though not declared to be forest. Here the interests of the local community reach their maximum,

while those of the general public are of the slightest nature. It follows that the principles which have been already laid down for the management of minor forests apply, if possible, with even greater force to the management of grazing areas, pure and simple.

13. The difficulties which arise in connection with these areas are apt to present themselves in their most aggravated form where the tenure of land is *ryotwari*. In *zamin-dari* tracts, the Crown lands generally assume the second of the two forms indicated in paragraph 10 of this Resolution. But where the settlement is *ryotwari*, every survey number or field that is unoccupied or unassigned is in the possession and at the disposal of Government, and trespass upon it is *prima facie* forbidden. In some cultivated tracts, these unoccupied and waste lands are the only source available from which the grazing requirements of the resident population can be met. The Government of India are clearly of opinion that the intermixture of plots of government land which are used for grazing only, but upon which trespass is forbidden, with the cultivation of occupancy or proprietary holders, is apt to lead to extreme abuses and especially so when these plots are under the management of the Forest Department. The inferior subordinates of the Forest Department are perhaps as reliable as can be expected on the pay which we can afford to give; but their morality is no higher than that of the uneducated classes from which they are drawn; while the enormous areas over which they are scattered and the small number of the controlling staff render effective supervision most difficult. It is not right, in order to protect the grass or the grazing dues on plots of waste scattered over the face of a cultivated district, to put it into the power of an underling to pound, or threaten to pound, cattle on the plea that they have overstepped the boundary between their owner's field and the next. Still less right is it to permit the exercise of the power of compounding offences allowed by section 67 of the Forest Act to depend upon the mere report of a subordinate servant, or to expose him to the temptations which such a power holds out. Where the interests involved are sufficiently important, it may perhaps be necessary to accept the danger of extortion while minimising as far as possible the opportunities for it. But in the case under consideration the interests involved are trifling, while the opportunities are unlimited.

14. It is to be distinctly understood that the Government of India do not desire that grazing should be looked upon primarily as a source of income. But it by no means follows that all revenues from scattered government lands should be relinquished. It is, indeed, inadvisable that this should be done, as to do so would give the ryots an interest in opposing allotment and making things unpleasant for new occupants. But the objections to direct management which have just been pointed out are reduced to a minimum or altogether avoided, when the management is placed in the hands of the resident cultivators or of representatives from among them. It will generally be possible to lease or otherwise manage the unoccupied lands of a village through the agency of the community not, indeed, at the highest price which they are ready to pay to escape such evils as have just been alluded to; but at a moderate estimate of their value to them fixed in view of the fact that herds and flocks which cannot exist without grazing, are often a necessary condition of the successful conduct of that cultivation upon which the government land revenue is paid. In no case should fields that have been relinquished be let to outsiders at a reduced assessment for grazing purposes for then we might have speculators taking up such fields, mainly in order to make what they can out of trespassing cattle.

15. One more point of principle remains to be noticed. The procedure under Chapter IV of the Indian Forest Act,* whereby forests are declared to be protected, has been in certain cases regarded by the Government of India as a provisional and intermediate procedure designed to afford time for consideration and decision with the object of ultimately constituting so much of the area as it is intended to retain, a reserved forest under Chapter II, and of relinquishing the remainder altogether. The Act provides two distinct procedures. By the more strict one under Chapter II,* existing rights may be either settled, transferred or commuted and this procedure will ordinarily be applied to forests of the first and second classes indicated in paragraph 3 of this Resolution. By the second procedure under Chapter IV, rights are recorded and regulated and this procedure will often be properly followed where the rights to which the area is subject are extensive, and the forest is to be managed mainly in the interests of the local community. It will ordinarily be applied to forests of the third and fourth classes. This second procedure may indeed be provisional, and introductory to reservation under Chapter II, but there is in the Forest Act nothing repugnant to giving it a larger and even a permanent operation.

*The references here are to Act VII of 1872 as amended by Act V of 1890 and Act XII of 1891. The Act at present in force is Act XVI of 1927. Chapters II and IV of the Act of 1927 deal with reserved and protected forests respectively as did the corresponding chapters of the Act of 1872, and the statements made in the text remain unaffected.

As regards Government, the chief difference between the two procedures is that new rights may spring up in a protected but not in a reserved forest, and that the record-of-rights framed under Chapter II is conclusive while that framed under Chapter IV only carries a presumption of truth. It is believed that this presumption offers ample security where the object of regulating the right is to provide for their more beneficial exercise rather than to override them in the public interest. As regards the people the chief difference is that, speaking broadly, in a reserved forest everything is an offence that is not permitted, while, in a protected forest, nothing is an offence that is not prohibited. In theory it is possible so to frame the permission and the prohibition as to make the results identical in the two cases, but in practice it is almost impossible to do so. If it were not so, the distinction drawn by the legislature would be unnecessary and meaningless. It is only where the public interests involved are of sufficient importance to justify the stricter procedure and the more comprehensive definition of forest offences that the latter should be adopted.

The Governor General in Council desires, therefore, that with regard both to fuel and fodder preserves and to grazing areas pure and simple, and especially to such of them as lie in the midst of cultivated tracts, it may be considered in each case whether it is necessary to class them, or if already so classed, to retain them as forest areas; and if this question is decided in the affirmative, whether it would not be better to constitute them protected rather than reserved forests.

16. Such are the general principles which the Government of India desire should be observed in the administration of all State forests in British India. They are fully aware that the detailed application of these principles must depend upon an infinite variety of circumstances which will have to be duly weighed in each case by the local authorities to whose discretion the decision must be left. One of the dangers which it is most difficult to guard against is the fraudulent abuse of concessions for commercial purposes, and only local considerations can indicate how this can best be met. The Government of India recognise the fact that the easier treatment in the matter of forest produce which His Excellency in Council desires should be extended to the agricultural classes may, especially in the case of true forest areas, necessitate more careful supervision in order that the concession may be confined within its legitimate limits. But, on the other hand, they think that, in some provinces, it will render possible a considerable reduction of existing establishments, and they desire that this matter may be carefully considered with reference to what has been said above in paragraph 12. They know also in some provinces forest policy is already framed on the lines which they wish to see followed in all. But the Governor General in Council believes that local governments and administrations will be glad to receive the assurance now given them that the Supreme Government will cordially support them in recognising and providing for local requirements to the utmost point that is consistent with Imperial interests. Where working-plans or plans of operation are framed for forests the provisions necessary for this purpose should be embodied in them. The exercise of the rights that have been recorded at settlement will necessarily be provided for in these plans. Where further concessions are made by way of privilege and grace, it will be well to grant them for some such limited period as ten years, so that they may, if necessary, be revised from time to time as the circumstances on which they were moulded change.

APPENDIX VI

Estimated value of forest produce given away free or at reduced rates in 1925-26

Province	Timber	Fuel	Grass and Grazing	Bamboos and other minor produce	Total
	Rs.	Rs.	Rs.	Rs.	Rs.
Assam	39,285	54,385	19,734	2,00,432	3,13,836
Bengal	1,747	33,943	30,507	35,266	1,06,463
Bihar and Orissa	39,715	1,45,691	1,09,207	42,981	3,37,594
Bombay	90,192	2,04,816	6,35,165	95,292	10,25,465
Burma*	1,35,471	2,695	66,842	3,127	2,08,135
Central Provinces and Berar	18,023	67,690	11,82,829	27,787	12,96,129
Madras	33,529	1,311	18,259	5,262	58,361
North-West Frontier Province	7,236	43,236	21,927	100	72,569
Punjab	83,105	6,68,649	20,43,768	47,126	28,42,648
United Provinces	95,713	1,20,056	3,11,358	63,152	5,90,279
Minor Administrations	3,194	2,636	97,764	4,983	1,08,579
Total	5,47,210	13,50,108	45,37,230	5,25,510	69,60,058

* Includes Federated Shan States.

APPENDIX VII

Area irrigated from wells in British India

					Acres (in 000's)
1900-01	--	..	..	..	9,343
1901-02	..	..	..	..	11,374
1902-03	--	..	..	..	11,569
1903-04	..	..	..	..	10,754
1904-05	..	..	..	..	9,490
1905-06	..	..	..	..	11,729
1906-07	..	..	..	..	10,940
1907-08	..	..	..	..	14,160
1908-09	--	..	..	..	12,496
1909-10	..	..	..	..	11,881
1910-11	..	..	..	..	10,214
1911-12	--	..	..	..	10,408
1912-13	..	..	..	..	12,351
1913-14	--	..	..	..	13,867
1914-15	..	..	..	..	12,556
1915-16	..	..	..	..	12,550
1916-17	..	..	..	..	12,033
1917-18	..	..	..	..	11,139
1918-19	..	..	..	..	14,216
1919-20	..	..	..	..	12,692
1920-21	..	..	..	..	14,242
1921-22	..	..	..	..	12,127
1922-23	..	..	..	..	11,439
1923-24	..	..	..	..	10,758
1924-25	..	..	..	..	10,570
1925-26	..	..	..	..	11,720

APPENDIX VIII

All-India Forecasts of Crops issued by the Department of Commercial Intelligence and Statistics

Crop	Forecast	Date prescribed for issue	Time of sowing	Time of harvesting
Rice	First	October 20	May-June*	September.*
	Second	December 20	May-August*	December-January.*
	Final	February 20	January-February	May-June.
Wheat	First	January 31	October-December	March-May.
	Second	March 15		
	Third	April 20		
	Fourth	May 30		
	Final	August 10		
Cotton	First	August 15	March-August†	October-April‡.
	Second	October 15		
	Third	December 15		
	Final	February 15		
	Supplementary	April 15		
Linseed Rape and Mustard	First	January 1	August-October	January-April.
	Second	March 15		
	Final	June 1		
Sesamum	First	September 1	May-July	October-December.
	Second	October 20		
	Final	January 15		
	Supplementary	April 20		
Groundnut	First	August 20	May-August‡	November-January
	Second	October 20		
	Final	February 15		
Castor-seed	(only one)	February 20	May-July	January-February.§
			September	March-April.
Indigo	First	October 15	February-July§	August-November.§
	Final	December 20		
Sugarcane	First	August 20	February-May	November-January¶
	Second	October 20		
	Final	February 5		
Jute ||	Preliminary	July 7-15	March-May	August-September.
	Final	September 21		

* In Madras, the first crop is sown between April and October and the second crop between September and March. The first crop is harvested between September and March and the second crop between January and May. The forecast is general for all three crops.

† In parts of southern India, sowing continues till December and harvesting till July or later.

‡ A summer variety is grown in Madras which is sown in February-March and harvested in July-August.

§ An irrigated variety is grown in Madras which is sown in December-January and harvested in March-April

¶ December-May in Madras.

|| Issued by the Director of Agriculture, Bengal.

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