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Statement showing the action taken by the
Government of India up to the end of 1935 on the
recommendations of the Royal Commission on
Agriculture in India with which they are concerned



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PART I.—Central Government.

Statement Showing the action taken by the Government of India, upto the end of 1935, on the recommendations of the Royal Commission on Agriculture in India with which they are concerned.

CHAPTER III.—Organisation of Agricultural Research.

1. Constitution of Council of Agricultural Research. (Recommendations 1 to 17 and 19—paragraphs 40—55 and 57—58.)

Recommendations 1, 2 and 3. Closer liaison between Pusa and Provincial Agricultural Departments.—The establishment of the Imperial Council of Agricultural Research in 1929 has enabled Pusa to be brought into closer touch with the Provincial Departments of Agriculture and the latter with each other. The transfer of the Pusa Institute to Delhi will be a further improvement.

Recommendation 4. Establishment of the Imperial Council of Agricultural Research.—The Council was established by Government of India Resolution No. 826-Agri. of 23rd May 1929 and registered as a Society with the following principal objects :—

- (a) to aid, develop and co-ordinate agricultural and veterinary research in India by promoting scientific (including technological research, instruction and experiments in the science), methods and practice of agriculture (including the marketing of agricultural produce) and by promoting veterinary research and instruction in veterinary science, by the diffusion of useful information and by such other means as appear calculated to develop agricultural and veterinary research.
- (b) to act as a clearing house of information not only in regard to research but also in regard to agricultural and veterinary matters generally.
- (c) for the purposes of the Society to draw and accept and make and endorse, discount and negotiate Government of India and other promissory notes, bills of exchange, cheques or other negotiable instruments.

Recommendation 5. Financing of the Imperial Council of Agricultural Research.—The Imperial Council of Agricultural Research was given an initial research grant of 25 lakhs and an annual research grant of 5 lakhs. The cost of the Secretariat of the Council (including the salaries of Vice-Chairman, Expert Advisers and Secretary) is also met by Government. Additional grants have been made to the Council for sugar research and for provincial marketing staff.

(Statement showing grants made by the Government of India to the Imperial Council of Agricultural Research) :—

	Rs.
(1) Non-recurring initial lump sum grant.. .. .	25,00,000
(2) Grant for research work at Rs. 5 lakhs per annum from 1930-31 to 1936-37	35,00,000
(3) Special grant for urgent agricultural (including animal husbandry) schemes	16,53,000
(4) Grant for sugar research	20,33,000
(5) All-India sugar research Institute (five years)	15,38,000
(6) Grant for Provincial Marketing schemes	10,00,000
(7) Office of the Agricultural Marketing Adviser to the Government of India (5 years) at Rs. 2,50,000 per annum (average)	12,50,000
Total	1,34,74,000

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CHAPTER III.—Organisation of Agricultural Research—contd.

(8) Administration of the Imperial Council of Agricultural Research Department.

	Rs.	Rs.
1929-30	1,34,000	
1930-31	2,38,000	
1931-32	2,26,000	
1932-33	1,96,000	
1933-34	2,21,000	
1934-35	2,29,000	
1935-36	2,50,000	
1936-37	3,09,000	
Total	18,03,000	18,03,000

Grand total .. 1,52,77,000

or Rs. 1,53,00,000 (round).

The Government of India have also provided for the central marketing staff and the central research institute for sugar technology as attached and sub-offices respectively under the Imperial Council of Agricultural Research Department.

Recommendation 6. Training of research workers.—The Imperial Council of Agricultural Research has not yet instituted any system of scholarships for the higher training of research workers, as it was the view of the Advisory Board and Governing Body that having regard to the number of scholarships given by other organisations for higher training abroad the Councils funds should, for the present, be devoted to actual research. It has, however, arranged for higher training and research in special branches of science of six workers for special posts, viz :—

Dairy Technology	..	..	..	..	..	..	..	1
Virus Diseases of Plants	..	..	..	..	..	..	..	1
Cytology	..	..	..	..	..	..	..	1
Soil microbiology	..	..	..	..	..	..	..	1
Physiology of fruit trees	..	..	..	..	..	..	..	1
Insect pests	..	..	..	..	..	..	..	1

It has also made a grant to the Calcutta University for special post-graduate training in statistics. It may be added that the research schemes at present financed by the Council employ 250 research workers and assistants so that the number of science and agricultural graduates receiving training in research methods is large.

Recommendation 7. Council as a clearing house of information.—This recommendation has been acted upon on a very limited scale as financial stringency has prevented the appointment of technical assistants to the Agricultural and the Animal Husbandry Experts to the Imperial Council of Agricultural Research. The Council has allotted part of its research grant to statistical work in this connection and the nucleus of an Animal Husbandry Bureau, has been established and a small Locust Intelligence Bureau maintained. The work of the Sugar Bureau, Pusa, has been transferred to the Sugar Technologist to the Council and has been considerably expanded.

CHAPTER III.—Organisation of Agricultural Research—contd.

Recommendation 8. Publication work.—The publication work formerly done by the Imperial Institute of Agricultural Research, Pusa, was taken over by the Council in January 1931 and the following publications are now issued :—

- (1) The Indian Journal of Agricultural Science (Bi-monthly);
- (2) The Indian Journal of Veterinary Science and Animal Husbandry (Quarterly);
- (3) Agricultural and Livestock in India (Bi-monthly);
- (4) The Review of Agricultural Operations in India (Biennially);
- (5) Scientific monographs of the Imperial Council of Agricultural Research;
- (6) Miscellaneous bulletins of the Imperial Council of Agricultural Research; and
- (7) Catalogue of Indian insects.

Recommendation 9. Sectional meetings of Experts in the various branches of Agricultural and Veterinary Science.—The Board of Agriculture and Animal Husbandry in India has been divided into two wings dealing respectively with (a) Crops and Soils and (b) Animal Health and Animal Husbandry. A meeting of Animal Husbandry Research Workers and others interested was held in February 1936. The various standing and *ad hoc* Committees of the Advisory Board of the Imperial Council of Agricultural Research bring together many research workers both from the Agricultural Departments and Universities. The Council has also assisted in the formation of an Indian Society of Soil Science.

Recommendation 10. Grants by the Council for Research.—Grants from the funds of the Council for research work are being made as recommended.

Recommendation 11. Alteration of Devolution Rules to permit of the development of Agricultural Research by a Central authority.—On examination this proved unnecessary. In practice grants are made to the Imperial Council of Agricultural Research which is a registered Society.

Recommendations 12 to 17. Constitution of the Council and its wholetime officers.—These recommendations have been accepted and acted upon. The Imperial Council of Agricultural Research which was brought into existence as a consequence has, however, a somewhat different constitution to the one recommended, as it was found expedient to set up a separate Advisory Board to deal with Scientific and Technical matters and a Governing Body (mainly composed of Ministers of Agriculture and Representatives of the Central Legislature) to deal with questions of policy and finance.

Recommendations 19. Abolition of the post of Agricultural Adviser to the Government of India.—The post of Agricultural Adviser to the Government of India has been abolished and the advisory duties of this post have been taken over by the Vice-Chairman, Imperial Council of Agricultural Research and his two expert colleagues.

2. Appointment of a whole-time Director for the Imperial Institute of Agricultural Research, Pusa. (Recommendations 20 and 21—paragraphs 58-59.)

These recommendations were accepted and the Secretary of State was asked to recruit a suitable candidate for the post. Dr. B. A. Keen, of the Rothamsted Experimental Station, who was appointed by him as Director on a year's contract in the first instance, joined the post in November 1930. Since the termination of his contract the post has been held by I. A. S. officers except from October 1935 since when an officer of General Central Service Class I, has been holding it in an officiating capacity. On Dr. Keen's advice it was decided that the Director should take an active part in research and that his duties should be combined with the headship of a Section. This arrangement is under re-consideration.

CHAPTER III.—Organisation of Agricultural Research—*contd.*

3. Expansion of the Pusa Institute as an educational centre. (Recommendation 22—paragraph 60.)

A preliminary examination of the question was made by the Government of India in 1929 and the local Governments were informed that the Government of India had accepted the view of the Commission and were willing to take the necessary action to provide all the facilities possible for higher agricultural training at Pusa as rapidly as financial conditions permitted, but that, as a preliminary to a decision as to the additional facilities which were required, it was essential that local Governments should come to a decision on the policy they wished to adopt in regard to recruitment to their new Superior Provincial Agricultural Services. The majority of the local Governments expressed their inability to undertake that the completion of a post-graduate course at Pusa would be an essential qualification for their superior provincial agricultural services and only a few of them could give an indication of the number of men whom they would wish to have trained annually.

The Government of India accepted the recommendations of the Royal Commission on Agriculture in India to make the Pusa Institute a centre for post-graduate training and to provide necessary facilities as rapidly as financial conditions permitted. They sought the advice of the Imperial Council of Agricultural Research, and the Advisory Board of the Council, in January 1931, adopted the following general Resolution on the subject :—

“ That Pusa should continue to be developed actively and to the greatest possible extent as an Institute for fundamental research. If facilities for post-graduate training analogous to those provided at present are then offered, it will attract research students in proportion to its success as a research centre ”.

The Board also made the following recommendations :—

- (a) that the provision of facilities for research work and for acquiring a knowledge of modern research methods and technique is all-important and involves a certain amount of definite but not formal instruction ;
- (b) that there is need for a special post-graduate course, of an original nature, for Assistant and Deputy Directors of Agriculture and that in some cases it will be desirable to give a refresher course in the various branches of agricultural science in order to assist students coming from a Provincial Department of Agriculture, who having left the University or the Agricultural College several years previously are not acquainted with the recent advances in pure science;
- (c) that for university students seeking admission to the post-graduate courses it should ordinarily be insisted upon that they should hold the highest degree in science, short of a Doctor's degree, awarded by their University and that for agricultural graduates a first-class or a high position in the college gradation list should be demanded ;
- (d) that entry to the post-graduate courses should not be confined to men already in Government service but should be open to private students ; and
- (e) that in each province there should be a selection committee, on which due representation should be given to universities and that the recommendations of such selection committees should be placed before a selection committee at Pusa, which should have the final voice in the selection of students. The Pusa authorities should have power to admit students who have not gone before a provincial selection committee but who, in their opinion, are suitable for a post-graduate course.

The recommendations of the Advisory Board of the Council have been accepted by the Government of India, except that in regard to recommendation (c) it was considered that candidates possessing the B. Sc. degree with honours should also be eligible for selection for post-graduate training.

CHAPTER III.—Organisation of Agricultural Research—*contd.*

4. Part to be played by Indian Universities in Agricultural development. (Recommendations 24-25—paragraph 62.)

The Inter-University Board continued to keep in touch with the Imperial Council of Agricultural Research. There are four representatives of Indian Universities elected by the Inter-University Board on the Advisory Board of the Council, one on the Council's Editorial Committee and 15 on other committees. The co-operation of the universities in agricultural research under the aegis of the Imperial Council of Agricultural Research has continued to develop and by the end of the year 1935 research grants aggregating Rs. 4,69,000 had been sanctioned to 7 universities for 15 schemes.

5. Internal co-ordination and cooperation in Research Institutes. (Recommendation 26—paragraph 64.)

Dr. B. A. Keen, late Director of the Pusa Institute, was of the opinion that under the present system of organisation of the Institute no advantage was to be gained by following the Rothamsted system. The recommendation will, however, be reconsidered as soon as the Institute is in working order at New Delhi, its new site.

6. Constitution of a Central Jute Committee. (Recommendations 28-29—paragraph 65.)

Government have accepted the recommendation in favour of the constitution of a Central Jute Committee.

The Vice-Chairman of the Imperial Council of Agricultural Research will be *ex-officio* president of the Committee which will be financed for the time being by grants from Central revenues. The grants, which will not exceed Rs. 5 lakhs in any year, will be made each year only to the extent that they can profitably be spent in the year and will naturally depend upon the financial position of the Government of India at the time. The position will however be reviewed after five years or earlier if necessary.

7. Establishment of additional Sub-Stations to the Pusa Institute. (Recommendation 30—paragraph 66.)

In addition to the sub-stations (Botanical and Sugarcane) at Karnal the following sugarcane experiment stations, financed by grants made by the Imperial Council of Agricultural Research, are now in operation :—

Dacca (Bengal) ; Mushari (Muzaffarpur—Bihar) ; Shahjahanpur and Muzaffarnagar (United Provinces) ; Jullundur and Lyallpur (Punjab) ; Padegaon (Bombay-Deccan) ; Anakapalle and Gudiyattam (Madras) ; Jorhat (Assam) and Mysore. Similar Sugarcane Research Stations are also to be opened shortly in the North West Frontier Province and Baroda out of the grants made by the Imperial Council of Agricultural Research. These stations enable the productions of the Imperial Sugarcane breeding station at Coimbatore (itself a branch of the Imperial Institute of Agricultural Research) to be thoroughly tested throughout India and the actual selections made under local conditions.

8. Continuance of the Board of Agriculture. (Recommendation 31—paragraph 67.)

The Board of Agriculture has been reconstituted as the “ Board of Agriculture and Animal Husbandry ” and divided into two wings, dealing respectively with Crops and Soils, and Animal Health and Animal Husbandry. It was the intention that each wing should meet biennially—meetings being arranged in alternate years, but owing to financial stringency, meetings have been less frequent.

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CHAPTER III.—Organisation of Agricultural Research—*concl.*

The last meeting of the old Board was held at Pusa in December 1929, the first meeting of the Animal Husbandry wing was held in February 1933 and that of the Crops and Soils wing in February 1935. The next meeting of the Animal Husbandry wing will take place in December 1936.

CHAPTER IV.—Agricultural Improvement.

9. *Conservation of Fertilisers and investigation of certain problems cultivation. (Recommendations 30, 31, 35, 36, 38, 68, 73 and 79—paragraphs 87, 91, 92, 94, 108, 112 and 115.)*

Recommendations 30, 31, 35 and 36. Restriction of the export and development of the use of indigenous fertilisers.—The Government of India have accepted the view of the Commission that no case can be made out for the imposition of an export tax on oil-seeds, oil-cakes, bones, bone-meal, fish manures and natural phosphates or for the prohibition of the export of these products. Local Governments were informed accordingly and asked to take early steps (a) to investigate the possibilities of extending the oil-crushing industry, and, in particular, to examine the question how far its development can be promoted by Government assistance in the matter of overcoming difficulties of transport and in the form of technological advice in regard to improved methods of manufacture and standardisation, (b) to investigate the economics of the bone-crushing industry, and (c) to investigate the extent to which fish manures could be profitably used for Indian agriculture and the price obtained for them in the export market.

The replies received from the local Governments were passed on to the Imperial Council of Agricultural Research which appointed two committees, *viz.*, (1) Fertiliser Committee for the investigation of problems relating to the conservation of indigenous manurial resources, the development of the use of indigenous fertilisers and the preparation of a programme of research on fertilisers, and (2) Oil-crushing Industry Committee to deal with the question of developing the oil-seed industry. The Fertilisers Committee met for the first time in June 1930 and organised the compilation and examination of previous fertiliser experiments throughout India. At its second meeting in February 1934 the Committee considered the results collected, arranged for their publication and drew up a general programme of fertiliser experiments to be conducted on modern lines. The Indian Oil-Crushing Industry Committee met twice in 1931 and again in 1933. A number of matters connected with the development of the oil-crushing industry were considered and the co-operation of provincial departments of industry sought.

The Imperial Council of Agricultural Research has given a grant of Rs. 30,000 per annum for three years to the Harcourt Butler Technological Institute to assist their oil-technology section. It has disseminated information regarding faults in Indian oilseeds and vegetable oils. With the establishment of the Industrial Research Bureau (under the Industries and Labour Department of the Government of India) the question of developing research in vegetable oil technology has been transferred to that body.

The Council has also assisted in the collection of data regarding the bone-crushing industry, in the design of a small power drawn bone-crusher (by a prize) and in experiments on the solubilisation of bones by simple methods. The results of the latter have been published.

Recommendation 38. Legislation against adulteration of fertilisers.—The position is now being re-examined.

Recommendation 68. Investigation into the economics of power cultivation in the Central Provinces with a view to the possibility of reclaiming areas infested with kans grass.—This has been carried out in the Central Provinces and Bombay Deccan. The Imperial Council of Agricultural Research made a grant for the completion of the Burmah-Shell Corporation's experiments in the Bombay Deccan and published their results as a monograph.

CHAPTER IV.—Agricultural Improvement—*contd.*

Recommendation 73. Problems of cultivation in dry and precarious tracts.—This is largely provincial but the Imperial Council of Agricultural Research has made grants to three provinces and one Indian State for a co-ordinated scheme of research on this group of problems.

Recommendation 79. Precautions against mixing of seeds in ginning factories.—Legislation for licensing of ginning and pressing factories has been passed in Bombay, Sind, Central Provinces and licensing is in vogue in Hyderabad and Indore States.

10. *Railway Freight concessions on fertilisers and agricultural machinery. (Recommendations 39 and 69—paragraphs 95 and 109.)*

The rates for manures on the principal railways, both State-managed and Company-managed lines, were reduced to the minimum permissible under the classification, *i.e.*, 1/10th pie per maund per mile, in 1928. It was, however, found that advantage was being taken of this concession rate for various commodities which, while occasionally used as manures, were more largely utilised for other purposes. In 1931, Railways notified that the 1/10th pie rate would apply only to certain descriptions of manures and then too only on production of a certificate from a gazetted officer of the Agricultural Department. The list of fertilisers to which the special rates applied was drawn up by Railway Administrations after taking into consideration the local conditions obtaining on each railway. Recently, owing to altered conditions, the rates for manures have been slightly enhanced; most of the principal Railways quote either C/F or C/R schedule, the basis of which is as follows:—

							Pie per maund per mile.
C/F	for any distance	..	..	..	..	..	0.140
C/R	1—150 miles	..	..	..	..	..	0.140
	+151 miles and over	..	..	..	..	..	0.110

Freight rates on agricultural implements and machinery were re-examined in 1928, when it was decided to reduce the classification for such implements and machinery not worked by their own power (*i.e.*, which is the only kind manufactured in India) from 2nd class (0.42 pie per maund per mile) to 1st class (0.38 pie per maund per mile) which is the lowest class in the Railways' General Classification of Goods. This revision of the classification had also the effect of removing the anomaly referred to in paragraph 313 of the Agricultural Commission's Report, regarding sugarcane mills not being included under agricultural implements.

11. *Modification of Rules framed under the Destructive Insects and Pests Act, 1914. (Recommendation 74—paragraph 113.)*

The Royal Commission held that no modification of the Rules framed under the Destructive Insects and Pests Act, 1914, so as to enable Directors of Agriculture to import prohibited material direct for experimental purposes was called for. This view was accepted and Local Governments were informed accordingly. The Rules have been amended with a view to prevent the introduction into British India of plant and fruit pests by air, and to restrict the import of Hevea rubber plants and seeds from America and West Indies, of coffee plants and unroasted and unground coffee seeds and beans and citrus plants. Aden has been excluded from the operation of the Rules but the restrictions imposed by the Rules continue to apply to all exports from Aden to other parts of British India.

12. *Co-operation of maritime Indian States in preventing the importation of Pests and Diseases from outside India. (Recommendation 75—paragraph 113.)*

The Imperial Council of Agricultural Research, to which the question was referred for advice, recommended that the most feasible method was to seek the co-operation of the maritime Indian States in dealing with each specified problem as it arose. This recommendation endorses the present practice and has been accepted by the Government of India.

CHAPTER IV.—Agricultural Improvement—*contd.*

The Indian States concerned are generally co-operating in the enforcement of the rules under the Destructive Insects and Pests Act.

13. *Strengthening of the Mycological and Entomological staff of the Central Government. (Recommendation 77—paragraph 114.)*

The recommendation was examined in connection with the general question of the measures which could be taken by the Government of India to assist the sugar industry and the Agricultural Adviser was requested to formulate schemes for strengthening the Imperial mycological and entomological staff to deal with pests and diseases of cane. Proposals submitted by him were placed before the I. C. of A. R. who have made a grant to the I. I. of A. R. providing for a Mycologist and a staff for sugarcane diseases. The I. C. of A. R. have also made a grant for Staff for research in sugarcane pests which is being carried on by the second Entomologist who has been relieved of his other duties.

14. *Grant of gun-licenses for the protection of crops and cattle from wild animals. (Recommendation 80—paragraph 116.)*

The Government of India examined the question and found that no further instructions to Local Governments were called for. The Tariff Board recommended that agricultural fencing wire should be free of the protective duty—the Government of India were unable to accept this for revenue reasons in view of the large use of precisely similar wire for non-agricultural purposes.

15. *Tariff Concessions. (Recommendations 45, 70 and 71—paragraphs 99 and 110.)*

Recommendation 45. Exemption of seeds, seedling plants, etc., from import duty.—The Royal Commission recommended that seeds, seedling plants and cuttings of exotic species and of exotic varieties of indigenous species imported for experimental sowing or planting should be exempted from import duty. In pursuance of this recommendation living plants were first exempted from duty in November 1929 by a notification under section 23 of the Sea Customs Act. This exemption was subsequently placed on a statutory basis by the Indian Tariff (Amendment) Act, 1930. A detailed examination of the recommendation regarding exemption of seeds was made in the Departments concerned but further consideration of it had to be postponed until the financial situation improved. The question is again under consideration in the Central Board of Revenue.

Recommendation No. 70. Rebate of import duties on iron and steel used in the manufacture of agricultural implements and machinery.—With reference to representations received by the Commission that whilst agricultural implements and machinery with a few exceptions were admitted into India free of duty, high protective duties were levied on imported iron and steel, it was recommended that the claims of manufacturers in India for a rebate of the import duties on iron and steel used in the manufacture of agricultural implements and machinery should be investigated by the Indian Tariff Board. It has been considered unnecessary to take any action in connection with this recommendation, as in any case in which it can be shown that an industry is hampered by reason of the fact that the duty on the finished article is lower than the duty on the materials required to be imported for its manufacture it is open to the manufacturers to apply for the removal of such inequality through the Tariff Board in accordance with the Commerce Department Resolution no. 38-T. (2), dated the 28th March 1925, which was published in the Gazette of India of the same date. It may also be mentioned that as a result of the last Tariff Board Enquiry on the Iron and Steel industry the protective duties on steel plates and structurals not of British manufacture have been substantially reduced. Similar British manufactures are now liable to a revenue duty only. Steel billets imported for re-rolling have further been exempted from customs duty in excess of the excise duty which is leviable on billets of Indian manufacture.

Recommendation No. 71. Interpretation of the term "Agricultural implements" in the Tariff schedule.—In accordance with the recommendation of the Commission, pans for boiling sugar

CHAPTER IV.—Agricultural Improvement—*concl.*

cane juice, sugar centrifuges and pug mills, and parts thereof as well as incubators for poultry farming were exempted from import duty by the Indian Tariff (Amendment) Act, 1930. Since then flame throwers for attachment to spraying machines designed for the extermination of locusts and 'Latex cups' have been added to the free list of agricultural implements.

CHAPTER VI.—Demonstration and Propaganda.

16. *Discontinuance by the Board of Agriculture of its Review of the methods of Demonstration and Propaganda employed in the provinces. (Recommendation 1—paragraph 129.)*

In December 1929, the Board of Agriculture in India passed a Resolution recommending that a review of the organisation for all methods of agricultural propaganda and other extension work should find a place in the agenda for future meetings of both the Agricultural and Animal Husbandry wings of the Board. Effect has been given to this resolution and the subject has found a place on the agenda of subsequent meetings.

17. *Government of India prize for agricultural improvements. (Recommendation 34—paragraph 150.)*

This has been accepted and the Imperial Council of Agricultural Research offers gold and silver medals annually for such inventions. It also offered a cash prize for an improved bone-crusher and the winning machine is now under test and alteration.

CHAPTER VII.—Animal Husbandry.

18. *Export of cattle. (Recommendation 46—paragraph 204.)*

The Royal Commission held that the export of cows and heifers is usually undesirable and should be carefully watched, but that unless the extinction of some valuable breed is threatened the export of breeding bulls should not be prohibited. In the case of certain breeds, export might be subject to licence.

The export of cattle is negligible except from the Madras Presidency. In order to watch the exports of cows and heifers from that province, the Collector of Customs, Madras, was asked in May 1929 to maintain special statistics of the export of cattle under suitable heads. These statistics which continued to be maintained up to September 1934 showed that the great majority of the animals exported were bullocks and bulls, and it was considered that it would be to the advantage of India to develop this trade.

As regards the export of bulls, the Madras Government were asked whether they wished the prohibition of export of all cattle of the Ongole breed, which had been in force since 1922, to continue or whether the export of bulls of that breed might be permitted under license. The local Government agreed to permit the export of bulls and bullocks of the Ongole breed under licenses to be issued by the Director of Agriculture, Madras, and the prohibition notification of 1922 was accordingly amended in January 1930.

19. *Establishment of a Central Institute of Animal Nutrition. (Recommendations 52 and 53—paragraph 209.)*

A scheme for such an Institute was prepared but it had to be postponed, owing to financial stringency. It has recently been decided to establish an animal nutrition institute at Izatnagar (Bareilly) and to treat it as part of the organisation under the Director I. I. of Veterinary Research as it was felt that there should be close contact between workers on problems of animal disease and those engaged on animal nutrition research.

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CHAPTER VII.—Animal Husbandry—*contd.*20. *Animal Genetics. (Recommendations 54 and 55—paragraph 210.)*

Since April 1932, the Statistical Assistant attached to the Animal Husbandry Bureau has been engaged in carrying out a close analysis of the records of the very extensive cattle breeding which for many years has been carried on under strictly controlled conditions by the Military Dairies Department. A great deal of valuable information has thus been collected and published, in the proceedings of the Animal Husbandry Wing Meeting held in Delhi in February 1933, and in the Council's Journals, as to the results which have been obtained by this organisation in the improvement of indigenous dairy cattle and by cross-breeding. Similar analyses have been made of the systematic breeding which has been carried on at Government Farms where accurate records have been kept and steps have been taken to ensure that all such records shall in future be maintained on similar lines suitable for proper statistical analysis of the data.

The publication of these records has done a great deal to focus attention on the hitherto unsuspected capacity for economical milk and butter fat production of Indian cows, of pure indigenous origin.

21. *Dairying Section of the Imperial Institute of Animal Husbandry and Dairying, Bangalore (Recommendations 56—60—paragraph 211.)*

These recommendations were discussed at a conference held in Simla in October 1928. The view taken by almost all the provincial representatives at the conference was that there was demand for higher training in dairying which the provincial agricultural colleges were not then in a position to meet and that therefore it would be premature to close down the dairy section of the Institute. Local Governments were informed that, in deference to this opinion, the Government of India did not intend to make any immediate change in the organisation of that section. They were however asked to examine the recommendations of the Royal Commission (i) that a thoroughly efficient dairy school should be established as an integral part of one or more agricultural colleges and (2) and that the curriculum of all agricultural colleges should include instruction in cattle-breeding, the feeding of dairy cows and the handling of milk, and to report what action they proposed to take in regard to them. Their replies showed that instruction such as was recommended by the Royal Commission was already provided at the various agricultural colleges. The replies of local Governments, in regard to the other recommendation were referred to the I. C. of A. R. and the latter was of opinion that there was great scope for one or two central institutes for education and research in dairying. Shortly afterwards it became necessary to re-organise the Pusa institute and its sub-stations owing to the need for economy on account of financial stringency, and it was decided in 1932 that the institutes at Bangalore and Wellington and the Imperial Cattle Breeding Farm at Karnal should be retained but on a somewhat reduced scale. Experimental cross-breeding was discontinued at both Bangalore and Wellington and the supply of milk at both places was restricted to the demands of the troops. Bangalore now maintains three pedigree herds of indigenous breeds, *viz.*, Sindhi and Gir and Murra buffaloes. The Karnal Farm maintains the Hariana and Tharparkar breeds. The Indian Dairy Diploma course of instruction has been continued at Bangalore as provinces desired its continuance. The course is now being modified and it is proposed to ask provinces to make provision for the more elementary part of the course, Bangalore concentrating on dairy technology in future. The equipment and staff at Bangalore is being improved as one central dairy institute is necessary. The Anand Creamery was closed as a measure of retrenchment but is being restarted as an experimental creamery for experimental work in butter and *ghee* manufacture and in the handling, processing and transport of milk and milk products. Chemical assistance has been arranged for at Bangalore. A scheme of work on the chemical composition and properties of Indian goat, cow and buffalo milk is to be carried out jointly with the Indian Institute of Science with the aid of a grant from the Imperial Council of Agricultural Research.

22. *Continuance of the Cattle Bureau. (Recommendation 62—paragraph 211.)*

An Animal Husbandry Bureau has been started under the Imperial Council of Agricultural Research since November 1933 with a nucleus staff consisting of a statistical Assistant and a clerk. Its main functions are the collection, collation and dissemination of information required for the proper development of Animal Husbandry in India and *inter alia* it has now taken steps to institute an All-India system of registration of pedigree stock based on official definition of the breed characteristics of 7 of the best known indigenous breeds of cattle and officially controlled milk-recording in the case of dairy cattle.

CHAPTER VII.—Animal Husbandry—*concl.*23. *Cattle Conferences. (Recommendation 62—paragraph 211.)*

The Animal Husbandry Wing of the Board of Agriculture and the Animal Husbandry Research Workers Conferences have taken the place of the Cattle Conferences.

The first meeting of the Animal Husbandry Wing of the Board of Agriculture and Animal Husbandry was held in February 1933. Action has since been taken to implement a number of recommendations accepted by the Wing, including the formation of Standing Cattle Breeding, Dairying and Animal Nutrition Research Committees and it is proposed to hold the Second meeting of this Wing during the current year. The meetings of the Committees are held in conjunction with the half yearly meetings of the Advisory Board.

In addition an Animal Husbandry Research workers conference has been organized at which all branches of Animal Husbandry are represented and a variety of research subjects discussed. The first meeting of this conference was held in February 1936.

24. *Representation of the interest of Animal Husbandry on the Council of Agricultural Research. (Recommendations 63—65—paragraph 212.)*

This has been accepted and Colonel A. Olver, C.B., C.M.G., F.R.C.V.S., was appointed Animal Husbandry Expert to the Imperial Council of Agricultural Research from the 18th April 1930. The sanction to the post has been extended up to the 17th April 1940.

As stated in item 23 above Standing Committees of the Imperial Council of Agricultural Research have been set up for Animal Nutrition Research, Animal Breeding and Dairying. In addition *ad hoc* Committees consider all Schemes and review annually the reports of the Disease Investigation Officers who are engaged, under a scheme financed by the Council, in systematic investigation of stock diseases in all major provinces and states affiliated to the Council. Special Committees have also been set up to deal with helminthology, sheep and goat breeding and apiculture.

CHAPTER VIII.—Forests.

25. *Railway freight on fodder, wood, charcoal and coal. (Recommendations 5 and 7—paragraphs 219 and 220.)*

Fodder.—This is classified at 1st class (0.38 pie per maund per mile). Most principal railways quote special schedule rates considerably lower than the ordinary classified rate for this commodity when carried at owner's risk and in wagon loads, the rates over the State-managed Railways in India being as follows:—

Eastern Bengal	..	..	..	Schedule C*/C; †W/120.
East Indian	..	..	..	Schedule C/D*; †W/120.
Great Indian Peninsular	..	..	..	Schedule CB/CJ*; †W/160, in through booking. Schedule Q*; on carrying capacity, in local booking.
North Western	..	..	..	Schedule C/R*; †W/270 in through booking. Schedule L/T* in local booking.

* These letters are merely distinctive marks adopted by Railways for certain bases of charge other than those adopted for class rates which are distinguished by numbers 1, 2, 2A, 2B, 2C, 3, etc.

† W indicates the minimum load in maunds per 4-wheeled wagon to which the rates apply.

CHAPTER VIII.—Forests—contd.

Calculated rates (exclusive of terminals) for certain distances for the schedules referred to above are as follows :—

Distances.	Per maund.				Per 4-wheeled wagon.	
	C/C.	C/D.	C/B-C/J.	C/R.	L/T.	Q.
	Rs. as. p.	Rs. as. p.	as. p.	as. p.	Rs.	Rs.
50	0 1 3	0 1 1	1 5	0 7	11	16
100	0 2 6	0 2 1	2 9	1 2	22	31
200	0 5 0	0 4 2	5 7	2 3	39	59
300	0 7 6	0 6 3	8 4	3 2	52	84
400	0 10 0	0 8 4	10 0	4 1	64	106
500	0 12 6	0 10 5	11 8	5 0	77	128
700	1 1 6	0 14 7	13 10	6 10	102	172
900	1 6 6	1 2 9	15 6	8 8	127	216

Wood.—Firewood, which is the commodity the Royal Agricultural Commission had in mind is classified 1st class, *i.e.*, 0·38 pie per maund per mile. Most principal Railways quote, however, special schedule rates which are lower than the ordinary classified rate for this traffic when carried in wagon loads at owner's risk; the rates over the State-managed Railways being as follows :—

Eastern Bengal	..	..	C/N; W/300.
East Indian	..	..	C/R; W/300.
Great Indian Peninsular	..	..	C/Q; W/300 in through booking. Q; on carrying capacity in local booking.
North Western	..	..	C/R; W/300.

The calculated rates per maund for various distances for the schedules referred to above are as follows :—

Distances.	C/N.	C/R.	C/Q.	Q Per 4-wheeled wagon.
	As. p.	As. p.	As. p.	Rs.
50	1 5	0 7	0 10	16
100	2 6	1 2	1 8	31
200	4 0	2 3	3 1	59
300	5 5	3 2	4 3	84
400	6 6	4 1	5 5	106
500	7 4	5 0	6 7	128
700	9 0	6 10	8 3	172
900	10 8	8 8	9 11	216

Charcoal.—This is also classified 1st class (*i.e.*, 0·38 pie per maund per mile). Most of the principal Railways quote special schedule rates for this traffic when carried in wagon loads at owner's risk; the rates over the State-managed Railways are as follows :—

Eastern Bengal	..	C/N;	W/300
East Indian	..	the same rate as for hard coke (<i>i.e.</i> , rate for coal including the surcharge).	
Great Indian Peninsular	..	C/Q;	W/300
North Western	..	C/Q;	W/300

CHAPTER VIII.—Forests—concl.

The calculated rates per maund for various distances for the schedules referred to above are as follows :—

Distances.	C/N. As. p.	C/Q. As. p.
50	1 5	0 10
100	2 6	1 8
200	4 0	3 1
300	5 5	4 3
400	6 6	5 5
500	7 4	6 7
700	9 0	8 3
900	10 8	9 11

Coal.—This is charged over most principal railways at a special scale, the basis of which is as follows (*plus* a surcharge of 12½% subject to a maximum of Re. 1 per ton) :—

	Pie per md. per mile.
(i) For traffic carried for distances 400 miles and under :—	
For all distances up to 200 miles inclusive ..	0·165
Plus for any distance in excess of 200 miles and up to 400 miles inclusive ..	0·13
(ii) For traffic carried for distances over 400 miles :—	
For all distances up to 200 miles inclusive ..	0·15
Plus for any distance in excess of 200 miles and up to 400 miles inclusive ..	0·06
Plus for any distance in excess of 400 miles ..	0·05

The freight rates for all the commodities specified above are on a very low basis, and Railways have not felt justified in making any further reductions in these rates.

CHAPTER IX.—Diseases of Livestock and their control.

26. All-India Contagious Diseases of Animals Act. (Recommendation 14—paragraph 246.)

A draft Bill and model rules thereunder have been prepared and circulated to local Governments and the suggestions and amendments received are now under consideration by the Imperial Council of Agricultural Research, with a view to early submission of the Bill to the legislature.

27. Revision of the emoluments of Veterinary Advisers to Local Governments. (Recommendations 23 and 24—paragraph 251.)

In view of the diversity of opinion which existed on this question it was decided by the Government of India not to adopt a uniform rate of emoluments for veterinary advisers in the provinces. Local Governments were informed accordingly and told that they might, if they so desired, reconsider the question in the light of the recommendations of the Royal Commission. The emoluments of the posts of Director Veterinary Services in the Punjab and in the Madras Presidency and of the post of Veterinary Adviser in Burma, when held by members of the I. V. S., have been revised with the sanction of the Secretary of State.

28. Higher Veterinary Training. (Recommendations 43—46—paragraph 258.)

The recommendation for the institution at one of the existing veterinary colleges of a course of training for candidates for the provincial veterinary services was taken up in 1931 and generally

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CHAPTER IX.—Diseases of Livestock and their control—*contd.*

speaking, accepted by all local Governments. The majority of them however made it clear that they would be unable to proceed with the expansion of their provincial veterinary services while present financial conditions continued. For the same reason the Government of India also found themselves unable to proceed with this recommendation. It has been estimated that if the veterinary college at Lahore were selected for the purpose, the scheme would involve an immediate non-recurring expenditure of Rs. 1,325 and a recurring expenditure of Rs. 70,760, and an ultimate non-recurring expenditure of Rs. 86,825, and a recurring expenditure of Rs. 1,01,470, exclusive of the cost of a dairy, which would probably be required as an adjunct to the college. The Government of India were unable to find these sums, even if they accepted them as a legitimate charge on central revenues, and as local Governments were evidently not in a position to do so, it was decided to defer further consideration of the proposals. Meanwhile Indian Students have to go to the Veterinary Colleges in Great Britain for full professional training but the pay and prospects offered to them were until recently, so inadequate, in comparison with the time and money necessarily spent on their training in England (Minimum of 5 years professional training) that the supply of candidates for such training has almost completely dried up.*

The matter of veterinary training in India is again under consideration.

29. *The Imperial Institute of Veterinary Research, Muktesar. (Recommendations 49—55 and 59—paragraphs 262—264.)*

The Government of India accepted the view of the Commission that Muktesar was well suited for the prosecution of research into animal diseases and that a second Imperial Institute of Veterinary Research was not required. In view of the isolation of Muktesar the Royal Commission recommended that Government should take all reasonable measures to increase the amenities of life at that station. It has been decided that each case as it arises should be dealt with in the light of this recommendation.

The Secretary of State was asked to recruit a Director of the Institute with the qualifications and experience on which stress was laid by the Royal Commission, but it was not found possible to recruit a suitable officer outside India and an experienced officer of the I. V. S. was appointed as Director. On the abolition of the post of Agricultural Adviser the administrative control of the Institute, as recommended by the Commission, passed to the Director of the Institute.

A scheme was prepared for the reorganisation of research work at the Institute into three sections dealing with Pathology, Serology and Protozoology respectively, each having two class I officers, one to be in charge of the section and the other to act as his deputy. Two of these sections have been functioning for some time with the full complement of staff. For the Protozoological Section the I. C. of A. R. have agreed to bear the cost of a Systematic Protozoologist (a class I officer) for a period of five years and, in addition, it has been decided to have two permanent class I officers in the Section. It is expected that this section also will soon be constituted.

The Director has been provided with a Personal Assistant to relieve him of routine administrative and secretarial work.

The recommendation that an effort should be made to distinguish as fully as possible between the expenditure on research and that on manufacturing operations was accepted, and the system of cost accounts was introduced at the Imperial Veterinary Serum Institute, Izatnagar, from the 1st August 1930. It was considered unnecessary to introduce this system at Muktesar since about 90 per cent. of the total quantity of sera and vaccines produced was manufactured at Izatnagar and the policy was to concentrate all manufacture there. On the basis of the cost of production for 1931-32 at the Izatnagar institute the selling rates of most of the products were considerably reduced.

*Footnote to remarks relating to Recommendations 43 to 46 Chapter IX

	1932-33.	1933-34.
Admission of Indian students to Royal Veterinary College	1	Nil.
Total number of Indian students in attendance	26	14

CHAPTER IX.—Diseases of Livestock and their control—*concl.*30. *Revival of the appointment of the Inspector-General Civil Veterinary Department, or the creation of a post of Veterinary Adviser to the Government of India. (Recommendation 56—paragraph 264.)*

The view of the Royal Commission that neither of these posts was necessary has been accepted. The Vice-Chairman of the I. C. of A. R., acting with the Animal Husbandry Expert to the Council advises the Government of India in veterinary matters.

31. *Standing Committee of the Imperial Council of Agricultural Research to deal with Veterinary matters. (Recommendations 57-58—paragraph 264.)*

On the recommendation of the Animal Husbandry Wing of the Board of Agriculture and Animal Husbandry, standing committees have been appointed to deal with animal nutrition, cattle breeding and dairying, and special committees to co-ordinate helminthological research in India and to deal with the reports of the Disease Investigation Officers who are employed in provinces and states under a grant from this Council. A special committee was also appointed to draft the proposed all India Act for the control of contagious diseases among Livestock in India. These Committees usually meet in conjunction with the meetings of the Advisory Board.

CHAPTER X.—Irrigation.

32. *Establishment of a Central Bureau of Information on Irrigation matters (including matters arising out of Hydro-electric development). (Recommendations 19, 20, 25 and 37—paragraphs 285, 288 and 295.)*

The Central Bureau of Information for Irrigation was established in 1931 to perform the functions contemplated for it by the Royal Commission on Agriculture. It was financed by the Government of India during the year 1931-32, and since then it has been maintained from the contributions of the Central and Provincial Governments (except the Central Provinces) and certain Indian States. It is now functioning as an independent body under the direct control of the Central Board of Irrigation.

The Bureau consists of a Secretary with a small office, including a library. The Bureau has no special powers; it is the office of the Central Board of Irrigation and a centre of information. Like the Central Board of Irrigation, the Bureau is now a well established institution, and its usefulness is recognised by all the Provinces with important irrigation interests.

33. *Transfer of District Canals in the N.-W. F. P. to the charge of the Irrigation Department. (Recommendation 35—paragraph 293.)*

The Chief Commissioner was consulted and his proposal that the technical control of the main District Canals should be transferred to the local Irrigation Department but that the revenue control should remain with the revenue authorities was sanctioned as an experimental measure for a period of two years from 1st April 1930. Towards the end of that year it was represented by the local Administration that this arrangement was unworkable and after further consideration of the matter orders were issued for the transfer, as an experimental measure up to the 31st March 1933, of the complete management, both technical and revenue, of all civil canals in the province to the Irrigation Department which was to function for this purpose in close touch with the Deputy and Revenue Commissioners concerned. The N.-W. F. P. having become a Governor's province in 1932 further action on the part of the Government of India became unnecessary, but it is understood that the Local Government have continued the arrangement under which the entire management of the civil canals is carried on by the local Irrigation Department.

CHAPTER X.—Irrigation—*concl.*34. *Irrigation in Baluchistan. (Recommendation 36—paragraph 294.)*

A temporary post of Superintending Engineer for Irrigation in Baluchistan has been sanctioned. Several works of importance to the Administration have been carried out. Owing, however, to the need for economy, it has not been possible to undertake new works of magnitude recently and the activities of the irrigation staff have been confined mainly to the management and maintenance of the existing canals.

CHAPTER XI.—Communications and Marketing.

35. *Periodical revision of railway freight rates with a view to the adjustment of their incidence and removal of anomalies—Freight concessions for livestock and empties for fruit and milk. (Recommendations 15, 16, 18 and 47—paragraphs 313, 315 and 345.)*

Railway rates are constantly under examination by Railway Administrations and adjustments are made from time to time to meet special cases as they arise. The Commission in this connection referred to two anomalies in railway freight charges as deserving of examination :—

- (a) sugar-cane mills not being classified under agricultural implements ;
- (b) charges for newly born calves being the same as for a full grown cow.

As regards (a), this anomaly has since been removed by the revision of the classification for agricultural implements (*vide* remarks under item 10.)

As regards (b), calves not more than 3 feet 6 inches high at the shoulder when accompanying parent animals in the same vehicle are carried free.

Quarter parcel rates were introduced, with effect from the 1st August 1929, for the carriage of return empty milk cans and fruit cases by passenger train.

The necessity for the rapid transport of livestock is recognised, but it has not been found practicable to carry by passenger train livestock booked at goods rates.

The question of making it compulsory for Railways to unload cattle after travelling 200 miles was examined by the Indian Railway Conference Association who were unable to recommend its adoption as :—

- (a) it would be difficult to work such a rule ;
- (b) the arrangement would not be popular with owners.

The Railway Board agreed with these views.

36. *Eradication of Water Hyacinth. (Recommendations 21 and 22—paragraph 318.)*

The Imperial Council of Agricultural Research financed a reasearch scheme by Professor Parija of Cuttack which cleared up the question of reproduction of the water hyacinth. Water hyacinth is now being effectively controlled in Orissa as a result of organised local action. A Bill is now before the Bengal Legislature.

37. *Post and Telegraph facilities. (Recommendation 23—paragraphs 319.)*

No use has been made of the collective guarantee system by any Local Government or Administration or private party and consequently no post or telegraph office was opened in any postal circle within British Indian territory, under the above system.

CHAPTER XI.—Communications and Marketing—*cont.*37-A. *Establishment of well regulated markets. (Recommendations 24—51—paragraphs 320 and 329—349.)*

A copy of Government of India (Imperial Council of Agricultural Research Department) resolution No. F-16-M./34, dated the 10th January 1935 regarding the establishment of the office of the Agricultural Marketing Adviser to the Government of India is annexed (*vide* Appendix). The first batch of marketing surveys are now being completed and the reports will appear during the summer of 1936. As a result of the discussion at the Provincial Economic Conference in 1934, it was found that provinces were unable to finance provincial marketing staffs themselves. The Government of India made a grant to the Imperial Council of Agricultural Research of 10 lakhs for expenditure in the provinces in addition to providing the central marketing staff. Most provinces have supplemented the minimum staff of three Assistant Marketing Officers paid from the Council's grant and each province has provided a Provincial Marketing Officer to control the local staff.

38. *Standardisation of weights and measures. (Recommendation 37—paragraph 339.)*

The Royal Commission recommended that the Government of India should again undertake an investigation into the possibility of standardising weights and measures throughout India, excluding Burma, and should lay down general principles to which provincial Governments should adhere, so far as this is possible, without undue interference with local trade customs.

When they made this recommendation, the Royal Commission appear not to have been aware that the Government of India had made enquiries, at the beginning of 1927, as to the progress made by local Governments in standardising weights and measures. The results of that enquiry show that progress in the direction of standardising weights and measures has been more substantial than the Royal Commission thought. Some of the local Governments have already enacted legislation for the standardisation of weights and measures, *e.g.*, the Central Provinces, Coorg, and Bombay, while most of the other local Governments have taken executive action for the standardisation of weights based on the Railway system. In these circumstances, the Government of India are of opinion that no further action is called for on their part.

39. *Grain Elevator System. (Recommendation 46—paragraph 346.)*

The establishment of grain elevators was not recommended by the Commission. This view has been accepted by the Government of India.

40. *Investigations into the possibilities of Cold Storage to be carried out under the auspices of the Railway Board. (Recommendation 48—paragraph 346.)*

Investigations are being made by the I. C. of A. R. in regard to the question of fruit preservation and transport especially for overseas market. The possibility of exporting mangoes in good condition to England was demonstrated by experimental shipments in 1932 and 1933. The fruit storage scheme which is in progress at Poona is providing technical data regarding the optimum conditions of temperature and humidity for the commercial storage of Indian mangoes and oranges, the commercial storage life of different varieties and the correct stage of picking and the suitability of various important varieties for transport and storage. Action on the part of the Railway Board has been deferred pending the results of these investigations.

Meantime, a refrigerated transport service for the carriage of provisions and stores from cold storage depots in Calcutta has been arranged from Howrah to serve stations up to Delhi but although this service has been operating for over four years it does not appear that the facility is being taken advantage of now to any greater extent than in 1931.

In regard to the carriage of milk, a firm interested in dairy produce in the Guzerat area has been permitted to own three insulated vans for the carriage of milk to Bombay.

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