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PART II.

Statement showing the progress made by local Governments and Administrations in giving effect to the recommendations of the Royal Commission on Agriculture in India, with which they are concerned, during the calendar year 1931.

N.B.—Provinces which are not specifically mentioned against a particular recommendation have nothing new to report.

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER III.—The organisation of Agricultural Research.	
1. Constitution of Provincial Committees to co-operate with the Council of Agricultural Research (paragraph 57).	Madras.—The Committee of non-officials and officials, referred to in the first report, has since been superseded by a Provincial Research Committee which consists of scientists and heads of agricultural, co-operative, industries and veterinary departments, presided over by His Excellency the Governor. This Committee has been constituted for scrutinizing schemes to be submitted to the Imperial Council of Agricultural Research. Bombay.—Three out of the four schemes approved by the Committee which, as reported last year, was constituted in 1930, were sanctioned by the Imperial Council, viz., rice physiology, sugarcane research and virus diseases, the latter of which has been postponed for the present. No meeting of the Committee was held during 1931, as it is the policy of the agricultural department to promote a few first class schemes rather than a large number of second class schemes. The scheme of dry-farming put up to the Imperial Council on the recommendation of the Committee remains to be sanctioned by the Council. It is the intention to put up fresh schemes after this scheme is sanctioned. United Provinces.—The United Provinces Agricultural Research Committee met twice during the year. Several useful schemes were considered and recommended to the Imperial Council of Agricultural Research for grants. The Imperial Council approved a scheme for the establishment of a rice research farm, which will be inaugurated on receipt of funds from the Council. Two other schemes of public utility relating to sugarcane and fruit research are being considered by the Imperial Council. Punjab.—The formation of a Provincial Committee has already been mentioned in the previous report. Bihar and Orissa.—The Provincial Research Committee, referred to in the previous report, considered three schemes, viz.:— (1) Investigation on passage of live-stock through the province of Bihar and Orissa. (2) Periodic failure of the mango crop. (3) Appointment of a veterinary investigation officer. No. (1) has been approved by Government and forwarded to the Imperial Council of Agricultural Research for consideration. The remaining two are under the consideration of Government. Both the rice and the sugarcane research schemes, referred to in the previous report, have been sanctioned by the Imperial Council. Money has been received for starting the work at Sabour on the rice research scheme and arrangements for recruiting the staff and purchase of equipment are in progress. Preliminary arrangements have progressed in acquiring the site for the sugar research station at Muzaffarpur and other necessary preliminaries for equipment of the station and recruitment of staff are in progress. Central Provinces.—The Provincial Council of Agricultural Research has been constituted as a Sub-Committee of the Provincial Advisory Board of Agriculture. Assam.—No meeting of the Provincial Research Committee, referred to in the previous report, was held during 1931. The Committee was obtained by correspondence.

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER IV—Agricultural Improvement.	
1. Progress of Research on Soils and Soil Conditions (paragraph 78).	Madras.—The term of the appointment of the Soil Physicist, re to in the previous report, has been extended by another year. preparation of a soil map for the Presidency is nearing completion. Bombay.—Attention is invited to the remarks in the previous r A sub-soil survey to determine the possibilities of water-logging alkaline formation in the Barrage areas of Sind is being carried out by Research Division of the irrigation department in Sind. The agricultural department in Sind is co-operating in this work. Research work on soil and soil conditions, with special reference to post-Barrage conditions of irrigation and cultivation in Sind is carried out by the Chemical Section of the Agricultural Research Station, Sakrand, since 1926. This section is in the charge of a Soil Physicist-Chemist of the Indian Agricultural Service and the work is directed and controlled by the Chief Agricultural Officer in Sind. During the past further progress has been made towards the solution of problems of formation in Sind soils under perennial irrigation, in particular connection with the reclamation of <i>kalar</i> lands. In addition, investigations into the most efficient and economical methods of maintaining soil fertility under intensive irrigation and cropping have made considerable progress and the results obtained are being tested on field scale at the Agricultural Research Station, Sakrand, and will be put into practice on large areas of the recently established Government "Auxiliary" Farms in the Barrage areas of Sind. United Provinces.—Research work on soil conditions continued, will be extended, with particular reference to rice, as soon as funds allotted by the Imperial Council of Agricultural Research for the scheme approved by them for the establishment of a rice research station. Punjab.—The action taken on this recommendation has already mentioned in the previous reports. Bihar and Orissa.—Studies on the nature of acidity of the Chota Nagpur soils and of the deltaic lands of Orissa are being continued as in the year. Permanent plots have been laid out at the Kanke, Balia, Cuttack farms where the same fertiliser treatments are being repeated after year. This is the third year of the work in progress. The effective acidity of a number of soil samples from the Kanke farms has been found to be actually proportional to the difference between exchangeable lime and the exchangeable hydrogen in the soil. Where this exchangeable lime was high, added lime did not prove to be of benefit to the fodder crops for which vegetative growth is more desired than production of seed. Investigations were also made and are in progress into the proportion of silica, alumina and iron oxide in some of the red soils of Chota Nagpur in order to arrive at a workable definition of laterite soils about which a great deal of confusion exists among soil workers. Work on the soil conditions which injuriously affected the growth of sugarcane on the Sepaya farm in North Bihar was continued. As the year was characterized by heavy rainfall, the unhealthiness of sugarcane was found to be the result of nitrogen starvation and consequent defective root development induced by rapid loss of nitrogen by leaching from the soil of certain texture. Work has also been taken up on the improvement of the soil conditions in the coastal area of Orissa where the land gets seriously damaged in culture due to flooding by sea. This work includes periodical examination

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER IV.—Agricultural Improvement—contd.	
3. Soil Erosion (paragraph 79). (Special to U. P., Bombay, Punjab, Bengal and B. and O.)	Central Provinces.—The action taken on this recommendation has already been mentioned in the first report. Assam.—Very little research work on soils was carried out during the year. Mechanical and chemical analysis of soils from the Khanapara and Sylhet cattle farms were made, and soil samples from the Jorhat and Titabar farms were tested for acidity and public health values. A large number of soil samples were collected from the Surma Valley for the estimation of acidity, public health values, organic matter and nitrogen, and the analysis of these is in progress. Madras.—As observed by the Commission, this is not an important problem in the Madras Presidency; but, wherever the evil is found, propaganda is carried on to prevent erosion by construction of <i>bunds</i> and terraces and levelling surfaces. Bombay.—In the Presidency proper, 36 applications for <i>bunding</i> (bund and dam) advice were dealt with in the North-Central Division during the year. In the South-Central Division, the work is progressing and the question of training some district agricultural overseers in this line of work in famine areas is being considered. The <i>bunding</i> officer in this Division is making special study of soil erosion and there is an increasing demand for his services, but progress is not possible unless more money and staff are made available. In the Southern Division, two <i>bunding</i> officers continued to prepare plans and estimates for the cultivators. In all, 57 schemes, costing Rs. 53,425, were executed during the year. As in the South-Central Division the demand for preparing <i>bunding</i> schemes is increasing and the staff is unable to cope with the increasing work. At the Dry Farming Experimental Station at Manjri, experiments are carried on to determine the extent to which erosion takes place under defined conditions of soil, cultivation, gradient and rainfall. The results obtained during 1929 and 1930 are very interesting. No action is required in this connection in Sind where problems of soil erosion are not of importance. United Provinces.—Attention is invited to the remarks in the previous report. Experimental work by the forest department on afforestation and prevention of erosion was restricted on account of financial stringency. Isolated and unpromising tracts were relinquished. Fellings on earlier afforested areas promise well, as the stumps are giving good coppice shoots. The introduction of bamboos in the better soil of the ravines is progressing well, but <i>baib</i> grass on the high dry parts is still in a very doubtful condition. Afforestation results on the <i>bhur</i> (sandy) soil near the Ramganga river in the Moradabad district have been particularly good. Punjab.—Preliminary arrangements are in progress in collaboration with the forest department to check soil erosion in forest areas by planting selected grasses. Bihar and Orissa.—During the year the <i>bandhing</i> staff in Chota Nagpur constructed four new <i>bandhs</i>, improved the condition of three that had been designed and built by their owners but were unsuccessful, and drew up plans and estimates for four more <i>bandhs</i>. There was very little demand for construction of high level contour <i>bandhs</i> in the hilly tracts of Bhagalpur and Monghyr districts due to the prevailing agricultural depression. Owing to financial stringency no officer could be deputed to examine the Bombay system to effect improvements in the methods adopted in Chota Nagpur. For similar reasons it has also been decided to keep the <i>bandhing</i> work in Chota Nagpur in abeyance.

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CHAPTER IV.—Agricultural Improvement—<i>contd.</i>									
4. Work on Fertilisers (paragraphs 80—93).	Madras.—Attention is invited to the remarks in the previous report. The existing data regarding manurial experiments hitherto conducted on the various research stations in the Presidency have been collected and submitted to the Imperial Council of Agricultural Research. The fishing season last year was again a failure and consequently the industry has not made any headway. A scheme of research on the fish manure industry drawn up at the request of the Indian Fertilizers Committee of the Council of Agricultural Research is under the consideration of that body. Experiments so far conducted on turning night soil into poudrette have not given good results. These experiments were not conducted strictly on Dr. Gilbert Fowler's method. Efforts are now being made by the health department to conduct experiments on the lines of this system at all municipalities, union towns, etc. The Director of Public Health has personally carried out two series of manure-making experiments in his gardens with considerable success, the great feature being the excessive speed of production as also the excellent quality of the manure. Bombay.—In the Presidency proper, a number of experiments on the use of sulphate of ammonia, nitrate of soda, calcium cyanamide, oil cakes and other fertilisers on sugarcane, onions, cotton, etc., was carried out and demonstrations were held in the North-Central Division. These manures have now become popular and private trade has sprung up in them. In the South-Central Division the work is also progressing. Three officers have been trained for the preparation of synthetic manure according to the Indore system. Good demand has been created for all types of nitrogenous manures for all types of crops under irrigation. The demand for bone-meal for <i>jowar</i> is likely to increase in some <i>talukas</i> of this Division. The Agricultural Chemist with the aid of a small grant from the Trustees of the Sir Sassoon David Trust Fund has worked out a simple method for preparing cheap bone-meal. Special attempts are being made to spread <i>sann</i> crop as a green manure for sugarcane crop on canals. In the Southern Division, as a result of many experiments conducted in different parts of the Division in previous years, the use of sulphate of ammonia and cake manure on sugarcane has largely increased. The use of bone-meal and sulphate of ammonia on paddy crops is also increasing. Experiments with sulphate of ammonia on dry crops, like <i>jowar</i> and cotton are being conducted but have not so far been encouraging. The results of <i>sann</i> green manuring experiments on Dharwar farm are promising. The use of night soil and poudrette is considerably increasing as a result of experiments in various places where municipalities exist. In Gujarat, trials with several indigenous as well as artificial manures were conducted on the farms as well as on cultivators' fields with a view to demonstrate the advantage to cultivation of the tract. In the Konkan, the work of finding out the economic dose of sulphate of ammonia on the trap soils of Karjat and its method of application are still being studied, similarly the effect of continuous application of sulphate of ammonia on rice land is also being ascertained. In the Kanara District, the effect of calcium cyanamide, <i>Nicifos</i> and bone-meal <i>plus</i> sulphate of ammonia on rice is being studied. During the year, the following quantities of artificial manures were distributed in the Konkan:— <table> <tr> <td>Sulphate of ammonia.</td><td>133 tons.</td></tr> <tr> <td>Bone-meal</td><td>32 tons.</td></tr> <tr> <td>Super phosphate</td><td>8 tons.</td></tr> <tr> <td>Nicifos</td><td>14 tons.</td></tr> </table> The agricultural department is carrying on as usual active propaganda for the use of proved manures with the existing staff. At the Agricultural Research Station, Sakrand, Sind, and at other Government farms in Sind, numerous experiments have been laid down in connection with the use of manures, both organic and inorganic, on the main crops under cultivation in the Barrage areas. In several cases, this work is being carried on in co-operation with commercial firms, <i>e.g.</i>, Imperial Chemicals (India), Limited, E. D. Sassoon and Company, etc. In all such experiments in Sind, inorganic manures are being tested in conjunction	Sulphate of ammonia.	133 tons.	Bone-meal	32 tons.	Super phosphate	8 tons.	Nicifos	14 tons.
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CHAPTER IV.—Agricultural Improvement—<i>contd.</i>	
	with organic manures as the application of inorganic manures alone to Sind soils is unlikely to prove beneficial or economical. During the past year, the manufacture of "compost" manures by the utilization of crop residues, waste organic materials, etc., on the "Indore" system has been carried on systematically at the Agricultural Research Station, Sakrand, and is being introduced and established as a routine process at all other Government farms in Sind. This system is demonstrated on all possible occasions to <i>zamindars</i> (cultivators) and other visitors and suitable modifications necessary for Sind conditions are being worked out at the research station. The cultivation of restorative crops, <i>e.g.</i>, legumes in "fertility" rotations and the use of green manure crops, <i>e.g.</i>, <i>guar</i>, <i>matar</i>, <i>sann</i>-hemp, etc., is common practice at Government farms and is being advocated widely by the district staff of the agricultural department among the cultivators. A special series of tests of crops suitable for green manuring purposes has been established at Sakrand and suitable crops, both from other parts of India and from abroad, are being tried in this connection. Manurial treatments, suitable for all the main crops—and many subsidiary crops, which will be cultivated in Sind, especially in the Barrage areas—are being worked out and the results issued to the cultivators in the form of popular vernacular leaflets. Special attention is being given to the profitable use of indigenous manures, mainly of the phosphatic and potash types, <i>e.g.</i>, bone-meal, and to the technique of manuring alkali lands with the object of assisting in reclamation measures. United Provinces.—The use of concentrated and artificial manures increased appreciably. An inquiry into the results of manurial experiments conducted in these provinces in the past was carried out at the request of the Imperial Council of Agricultural Research. An officer of the agricultural department was placed on special duty for the purpose and his report has been submitted to the Imperial Council. There has been a small increase in the number of villages in which, through the efforts of co-operative societies, village refuse is stored for use as manure in pits outside the inhabited area. Punjab.—Work on manures has been extended. Bihar and Orissa.—This work continued more or less on the same lines as in the last year. Manurial investigations in the North Bihar Range have reached a definite stage and the results of work to date have been written up for publication in the Journal of Agricultural Science in India. Besides the usefulness of <i>ammophos</i> for rice and ammonium sulphate alone or in conjunction with <i>ammophos</i> for sugarcane and potato as reported last year, superphosphate for gram and <i>ammophos</i> for wheat were found useful specially in the South East Bihar Range. In the Chota Nagpur Range, it was found that nitrate of soda had a depressing effect on paddy. Investigation into fish refuse which is available in Orissa showed that it could be used as a valuable manure if properly treated, <i>i.e.</i>, if allowed to decompose anaerobically with cattle urine as starter. A comparative trial of various leguminous crops for green-manuring purposes is in progress at the Cuttack farm and methods are being devised for utilizing an aquatic weed (<i>Putia</i> species) which often chokes up tanks in Orissa after they have been cleared of water-hyacinth. This weed is fairly rich in fertilising constituents. The present low price of agricultural produce appears to act as a set-back for the extended use of commercial fertilisers by the cultivators. The report of the agricultural officer, who was put on special duty for the collection of data on manurial experiments on Government farms in the province for which a grant of Rs. 1,650 was obtained from the Imperial Council of Agricultural Research, was written up and forwarded to that body. Central Provinces.—A report on the past experimental work, referred to in the previous report, has been prepared and forwarded to the Imperial Council of Agricultural Research.

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5. Introduction of Improved Varieties of Crops (paragraphs 97—103).	Assam.—The manurial experiments on rice at the Karimganj and Titabar farms and on sugarcane at the Jorhat farm were continued on the same lines as in the previous year. The manurial experiment with potatoes at the Upper Shillong farm was commenced. A consolidated report on manurial experiments carried out in this province was compiled and submitted to the Imperial Council of Agricultural Research during the year. Madras.—The action taken on this recommendation has already been mentioned in the previous report. Bombay.—In the Presidency proper, a seed multiplication and distribution scheme has been launched in Khandesh since May, 1931, for the extension of <i>Banilla</i> cotton. This is mainly financed by the Indian Central Cotton Committee and when it reaches full development it will be the biggest seed scheme hitherto organized by the department of agriculture in this Presidency. The scheme embraces six stages and the following table summarizes the scale of operations at each stage :— <table><tr><th>Stage number.</th><th>Where located.</th><th>Character of work to be done.</th></tr><tr><td>I</td><td>Dhulia Government farm.</td><td>500 lbs. of selfed seed is to be produced from 5 acres of cotton.</td></tr><tr><td>II</td><td>Multiplication plot of 200 acres to be rented on wilt-free land.</td><td>Seed multiplication on 100 acres of land sown with cotton.</td></tr><tr><td>III</td><td>A small group of villages in a suitable tract.</td><td>This will be the inner reserved area on which seed multiplication will be made on 1,000 acres.</td></tr><tr><td>IV</td><td>Groups of villages at five centres.</td><td>These will be outer reserved areas on which seed multiplication will be made on 10,000 acres (i.e., 2,000 acres at each centre).</td></tr><tr><td>V</td><td>Five cotton zones in suitable tracts.</td><td>Further multiplication on five areas of 20,000 acres each.</td></tr><tr><td>VI</td><td>Whole of Khandesh.</td><td>General cotton crop.</td></tr></table> For the present, it is proposed to limit operations to the first four stages and stage V up to the point of seed distribution. The operations at stage V (beyond seed distribution) and stage VI (whole) need not be considered at present as they cannot materialize for some time and their ultimate practicability will depend upon the growth of the co-operative movement. C. O. 213 sugarcane variety is being introduced in suitable areas in this Division. Akola <i>bajri</i> is found suitable in Khandesh and is being distributed in all parts of that tract. Besides these, Pusa 4 wheat and other wheats bred at the wheat breeding station are being introduced in the various parts of the Division. The work of cotton breeding has been in progress at Dhulia for a number of years and now it is proposed to transfer this operation to Jalgaon with special reference to breeding improved strains of N. R. and <i>Banilla</i> cottons which are wilt-resistant (<i>Fusarium</i> species). The Indian Central Cotton Committee sanctioned half the cost of a five years' breeding scheme for this purpose. In the South-Central Division (1) Pusa wheat is well established, (2) the <i>Jowar</i> Breeder, Mohol, is working on two <i>rabi</i> varieties—<i>Malandi</i> and <i>Dagadi</i>—and it seems that within a year or two new selections would be available for distribution. About 4 million acres grow <i>rabi-jowar</i>, (3) the Imperial Cane Breeder, Coimbatore, has supplied new strains of sugarcane; these are being tested at Manjri and Padhegaon while village trials with E. K. 28 have been laid down, (4) N. R. Cotton is spreading on the canal areas and also Spanish peasant groundnuts. <i>Jayawant</i> cotton is being introduced in the Satara District. In the Southern Division, with the existing facilities as regards staff and funds, the work on cotton breeding has continued, but future work will be particularly directed to the production of wilt-resisting strains (<i>Fusarium</i> species). Two improved varieties of cotton, viz., <i>Jayawant</i> and <i>Gadag</i> No. 1 have been grown on an area of 1,17,000 and 1,21,000 acres, respectively. During the year under report (1931), a 50-acre seed farm has been established at Gadag for multiplication	Stage number.	Where located.	Character of work to be done.	I	Dhulia Government farm.	500 lbs. of selfed seed is to be produced from 5 acres of cotton.	II	Multiplication plot of 200 acres to be rented on wilt-free land.	Seed multiplication on 100 acres of land sown with cotton.	III	A small group of villages in a suitable tract.	This will be the inner reserved area on which seed multiplication will be made on 1,000 acres.	IV	Groups of villages at five centres.	These will be outer reserved areas on which seed multiplication will be made on 10,000 acres (i.e., 2,000 acres at each centre).	V	Five cotton zones in suitable tracts.	Further multiplication on five areas of 20,000 acres each.	VI	Whole of Khandesh.	General cotton crop.
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CHAPTER IV.—Agricultural Improvement—contd.	
	of <i>Gadag</i> No. 1 selfed seed from the grants of the Indian Central Cotton Committee, which body also recently sanctioned a cotton seed expansion scheme for Athni taluka of Belgaum district, costing about half a lakh of rupees. The cotton Breeder, S. D., is also doing some groundnut breeding work. The Rice Breeder, Mugad (district Dharwar), has selected 3 strains of <i>Mugad</i> and 3 strains of <i>Antarsal</i> which have become popular in the rice growing tract of the Southern Division. A seed multiplication scheme for distribution of these strains on a large scale is under contemplation. These improved strains were grown on an area of 515 acres in the year under report. The Rice Breeder is further selecting strains in another variety of paddy called <i>Dodga</i> and is working with a cross between <i>Mugad</i> and <i>Kolamba</i>. In Gujarat, the following improved varieties of crops are being introduced on a large scale. 1027 A. L. F. cotton seed, <i>Budh Peris</i> 53 <i>Jowar</i> in Surat District and <i>Wagad</i> No. 8 cotton seed in Ahmedabad District, wheat 224 in Bhal tract and elsewhere, Pusa 4 wheat in the Panch Mahals, paddy No. 79 in rice tract of the Surat district. Several new varieties of sugarcane were introduced in the sugarcane growing tract of the Surat district as well as in the Panch Mahals and Ahmedabad districts; and groundnut and Spanish peanut in the Panch Mahals. In the Konkan, the following varieties of <i>Kolamba</i> strains have been found more profitable than the local varieties :— K. 42, K. 226, K. 412 Late. K. 153 Intermediate. K. 79, K. 184, K. 401 Early. In the Ratnagiri district, <i>Patani</i> No. 6 and <i>Panwel</i> No. 61 are being introduced as they yield from 12 to 15 per cent. more outturn. In the Kanara district, attention is given to evolving promising strains from the following varieties :— <i>Maskati</i>, <i>Jaddu</i>, <i>Holga</i> and <i>Sonsal</i>. Over 35,000 lbs. of pure seed of the above strains were distributed during the year under report. In the Kanara district, Red Mauritius variety of sugarcane has replaced nearly $\frac{1}{2}$ area under local <i>Daskabba</i>. The new varieties of H.M. 554 and 89 are also found more profitable. Wheat breeding is in progress on a plot of land near Niphad in the Nasik district and it is proposed to undertake <i>bajri</i> breeding work also. Wilt has become a limiting factor in cotton production in the Southern Mahratta country, in West Khandesh and in Broach. Hence all schemes for cotton breeding in these areas hinge on the selection of wilt-resistant varieties. This line of work is being followed and additional finance has been obtained from the Indian Central Cotton Committee for launching a cotton breeding scheme at Broach. The Virus disease has assumed serious proportions in the case of chillies and certain other crops. The Plant Pathologist was intending to organize an important virus research scheme with the help of the grant of the Imperial Council of Agricultural Research, but this has been postponed for the present. Research work on the improvement of all the main crops of Sind, e.g., cotton, wheat, <i>jowar</i>, rice, <i>bajri</i>, oil-seeds, pulses, etc., is being vigorously carried on in the Botanical Section at the Agricultural Research Station, Sakrand, and at numerous other subsidiary experimental stations in the Barrage areas. Improved varieties of all these main crops have been obtained, many of which are already being cultivated on a large scale in the districts. The work of seed multiplication and extension of improved varieties of crops has been reorganised in the past year and definite programmes for this work in connection with cotton, rice, <i>jowar</i> and wheat have been laid down and are being put into force. No improved variety of crop is being given out for extension in the districts until it has been tried out most comprehensively on Government farms and under a series of district trials on <i>zamindari</i> lands. A series of "Major wheat varietal tests" involving scientific tests at thirty centres were carried out in the past <i>rabi</i> season and the results obtained, after statistical examination, are forming the basis of the agricultural department's policy towards the extension of improved wheat varieties in the districts. The Indian Central Cotton Committee has allotted a grant of Rs. 93,000 spread over a period of three years to assist in the extension of improved varieties of cotton in the Barrage areas of Sind and work under this scheme was commenced in the past year. Five new Government "Auxiliary" farms at important centres in the Barrage areas will commence cropping in the <i>kharif</i> season of 1932 and will aid considerably in the departmental production of the seed of improved

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CHAPTER IV.—Agricultural Improvement—contd.	varieties of crops and in their popularization among the cultivators. With regard to seed distribution, special attention has been given to enlisting the co-operation and assistance of co-operative organizations in this branch of the activities of the agricultural department. Grain sale societies, <i>taluka</i> development associations, and similar co-operative bodies are playing a prominent part in seed extension and distribution in Sind. In conjunction with the Revenue Officer, Lloyd Barrage, the Chief Agricultural Officer in Sind is formulating schemes for the utilization of the assistance of large landowners and grantees in the new Barrage areas in the work of the mass production of the pure seed of improved varieties of crops for distribution among the cultivators. By means of organised visits to the Agricultural Research Station, Sakrand, and by small exhibitions of improved varieties of crops held in Karachi and other trade centres, efforts are being made to secure the interest and co-operation of trade and commercial bodies in the branch of departmental work concerned with the improvement of quality and outturn of the main commercial crops of Sind. United Provinces.—The quantity of improved seed issued during the year aggregated 1,000,000 maunds as compared with 639,000 maunds in 1930. Co-operative societies continued to assist in the work of seed distribution. The area under improved seed of all kinds introduced by the agricultural department has increased so rapidly that it is very difficult to maintain a satisfactory year to year record. Of the total area under sugarcane no less than about 48 per cent. is under improved varieties. The percentage last year was 37. The area under an improved variety of cotton (C. 402) has also increased considerably. Punjab.—The action taken on this recommendation has already been mentioned in the previous report. Burma.—In connection with financial transactions connected with seed distribution the following system has been introduced :— (1) The special advances for the purchase and supply to cultivators of seeds, improved agricultural implements, chemicals and manures are debited to a special allotment to the Director of Agriculture who distributes them to the various deputy directors according to their wants. (2) Deputy directors of agriculture perform the duties both of a township officer and of a deputy commissioner under the Agriculturists' Loans Rules framed under the Agriculturists' Loans Act, 1884. (3) Deputy directors arrange for the allocation of the seed, examine and are responsible for the security furnished by the applicants who take seed on credit and for the recovery of the amounts due to Government. (4) Forms 'A' and 'B' at pages 52 and 53 of the Cultivators' Loans Manual, 1923, are used by the deputy directors in receiving applications and in arranging for security. (5) Officers of the agricultural department collect the amounts due and credit them into the treasury in the normal way and hand over defaulters to the Deputy Commissioner of the district, who collects the debts as arrears of land revenue under the provisions of the Agriculturists' Loans Act, 1884. (6) Deputy directors are held personally liable in the event of their failure to take sufficient security. Bihar and Orissa.—The work continued on the lines of last year. A number of new and promising hybrid varieties of gram have been fixed. Co. 213 sugarcane, Pusa 52 wheat and Pusa 21 barley are spreading rapidly while <i>dahia</i> paddy is continuing to be popular. Good reports are being received of <i>kankesal</i> paddy in Chota Nagpur, and of Co. 205 sugarcane from the flooded areas of Orissa. Co. 299 shows a good record and may be said to have passed the experimental stage as an early ripening cane. The botanical survey of the paddy varieties and isolation of pure lines were continued. With the staff of the rice research work which will be appointed from February, 1932, a more complete and comprehensive survey of all the paddy varieties of this province will be undertaken.

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER IV.—Agricultural Improvement—contd.	The cultivation of <i>berseem</i> is being regularized at the Kanke farm (Ranchi) and attempts at seed production of this valuable fodder crop were attended with success. Central Provinces.—The action taken on these recommendations has already been mentioned in the first report. Assam.—Work on selection and cross-breeding of rice was continued on the Karinganj and Titabar farms. In the selection experiments some 1,300 types are under observation, and about 2,000 types in the cross-breeding experiments. As a result, more than twenty high-yielding types have been produced, the majority of which have been successfully introduced to the cultivators. Experiments with varieties of sugarcane were continued at the Jorhat farm. Several improved varieties have been distributed and have largely displaced the poor-yielding varieties formerly grown by the cultivators. Trials and distribution of varieties of English potatoes were continued on the Upper Shillong farm. As a result of this work, practically the whole of the potato crop in the Khasi and Jaintia Hills is now grown from seed originally supplied from the farm. Other work on crops includes variety trials with <i>arhar</i>, mustard and pulses, and the trial and introduction of fodder crops. Baluchistan.—Results of fruit planting and cotton sowing experiments are being watched. Delhi.—Improved varieties of seeds of wheat, cotton and sugarcane were supplied to zamindars and improved fodder crops were grown in a number of places. Coorg.—Experiments with improved strains of paddy obtained from research stations in Madras, Mysore and Bombay are being continued. Madras.—The action taken on this recommendation has already been mentioned in the first report. Bombay.—The agricultural department in the Presidency is taking suitable action wherever found necessary with the existing facilities. This problem is receiving particular attention in the case of sugarcane. In the North-Central Division, wider planting in cane and wider sowing in cotton is being tested and demonstrated wherever necessary. In the South-Central Division, Pusa 4 wheat, N. R. Cotton, Spanish peanut and tobacco are being introduced as rotation crops to sugarcane crop, especially in the canal area. In the Southern Division, rotation and tillage experiments with sugarcane are being conducted on the Gokak farm and with <i>jowar</i>, cotton, groundnut and tobacco on the Dharwar farm with some very useful results. Groundnut and tobacco have been found to form very good rotations to <i>jowar</i> crop in this Division. The method of growing groundnut and cotton in alternate rows has been found to be better than growing in separate blocks in this Division. In Gujarat, wider sowing of crops is being introduced in the tract and several methods are being experimented upon for further investigations. In Sind, such investigations form the major part of the work of the agricultural section, Agricultural Research Station, Sakrand, and very considerable progress has been made in this direction in the past year. Rotations designed to reclaim <i>kalar</i> lands and to maintain soil fertility under post-barrage conditions of irrigation and agriculture have been in force at Sakrand during the past five years and the results of such systems of cropping are now reaching the stage when definite conclusions can be arrived at. Work on the improvement of tillage methods is also a prominent feature of the investigations in the agricultural section and many of the methods worked out by the staff of that section are now being demonstrated successfully in the districts. This work will be considerably accelerated and intensified with the imminent opening of the five new Government "Auxiliary" farms for demonstration of improved methods and materials of agriculture. These farms are expected to commence cropping operations in the <i>kharif</i> season of 1932.
6. Research and Experiment on Rotations and Methods of Tillage (paragraph 104).	

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER IV.—Agricultural Improvement—contd.	
	United Provinces.—Experiments continue on Government farms. Punjab.—The action taken on this recommendation has already been mentioned in the first report. Central Provinces.—The action taken on these recommendations has already been mentioned in the first report. Assam.—The experiments on shallow and deep ploughing for paddy and the use of green manure crops were continued at Karimganj and Titabar. At Jorhat and Upper Shillong suitable rotations for sugarcane and potatoes respectively are being worked out. Delhi.—Fifteen cultural experiments were made on demonstration plots at different places on <i>zamindars'</i> lands. These were conducted entirely by the <i>zamindars</i> with their own hands under the close supervision and instructions of the agricultural assistant. Madras.—The action taken on this recommendation has already been mentioned in the first report. Bombay.—Attention is invited to the remarks in the previous report. Central Provinces.—The action taken on these recommendations has already been mentioned in the first report. Madras.—The action taken on this recommendation has already been mentioned in the first report. Bombay.—The position as regards reorganization, mentioned in the last report, remains unsatisfactory as owing to the need for rigid economy, the local Government have decided to hold in abeyance the post of agricultural engineer. The boring activities have also been stopped with a view to reorganizing them on the basis of a greatly reduced budget. On account of financial stringency, no progress has been made with the establishment of an agricultural engineering section of the agricultural department in Sind. United Provinces.—The sub-division of the agricultural engineering section has not yet been effected. A committee has been appointed to inquire into the working of the section and to make recommendations regarding the future policy to be adopted. Punjab.—The action taken on this recommendation has already been mentioned in the first report. Bihar and Orissa.—Effect could not yet be given to the recommendations as outlined in the first report, due to financial stringency. Central Provinces.—The post of the agricultural engineer to Government Central Provinces, has had to be abolished owing to financial stringency. The rest of the section has, however, been retained so that the work so far done may not be lost. Madras.—The action taken on this recommendation has already been mentioned in the previous report.
7. Mass production of Wooden Parts of Agricultural Implements (paragraph 105).	
8. Organisation of the Agricultural Engineering sections of the Agricultural Departments (paragraph 106).	
9. Research work on Agricultural Implements and Machinery (paragraphs 107-108).	

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
PTER IV.—Agricultural Improvement—contd.	
	Bombay.—Further modifications and trials with the improved seed drill and the improved winnowing mentioned in the last report have been encouraging, and the Patent Officer has granted a patent for the latter. Other important work which was receiving the attention of the agricultural engineer included the designing of (1) a combined thresher and winnowing, (2) a rotary groundnut raiser, (3) a soil sampling machine, and (4) a concrete fencing post. Owing to the absence of an agricultural engineer and an agricultural engineering section in Sind, no special research work on agricultural implements and machinery can be undertaken there at present. In co-operation with the Burmah Shell Company (India), Limited, a series of tests of mechanical cultivation were carried out on the areas of the new Government "Auxiliary" farms under development. These tests have provided most valuable information and data regarding the economies and technique of tractor-ploughing of virgin lands in the Barrage areas. At a staff conference of the agricultural department in Sind, a list of urgently required improvements in indigenous agricultural implements was prepared and the work of investigating these problems is being undertaken by the assistant agricultural engineer so far as his present duties permit. United Provinces.—<i>Vide</i> remarks against item 8. Punjab.—The action taken on this recommendation has already been mentioned in the previous reports. Bihar and Orissa.—Designs of an experimental 3-roller power cane crushing mill as reported last year have been completed and arrangements have been made to have one mill manufactured and tested during the season 1931-32. A small and cheaper edition of the "Bihar plough" has been produced, tested and standardized and that together with the cultivator and ridge plough is steadily selling. Central Provinces.—The action taken on this recommendation has already been mentioned in the previous report. Madras.—A scheme has been submitted to the Imperial Council of Agricultural Research for the study of dry-farming problems. Bombay.—At the Dry Farming Experimental Station at Manjri, experiments in connection with the problem of dry farming are being continued on replicated plots by the Soil Physicist to Government. A beginning has been made to find out the disposal of rain water in a quantitative manner as water is the limiting factor in the famine areas of the Bombay Deccan. The methods evolved are being tried at numerous places in Poona, Ahmednagar, Solapur and Bijapur districts on cultivators' fields by the Soil Physicist with the co-operation of the deputy directors of agriculture concerned. The Dry Farming Research scheme, which was submitted last year to the Imperial Council of Agricultural Research for a grant-in-aid, is now awaiting the approval of the Governing Body of the Council. In the South-Central Division, propaganda with regard to dry farming, growing of seeds and <i>bunding</i> is being conducted with the help of district local boards, <i>taluka</i> development associations and co-operative societies. These problems do not arise in Sind. United Provinces.—Work on the problem continues on the hill farms though the hill agricultural circle has been amalgamated with the Rohilkhand circle as a measure of economy. An experiment is being tried in the western circle on the dry cultivation of wheat and barley. Punjab.—The action taken on this recommendation has already been mentioned in the previous reports. Experiments on <i>barani</i> cultivation are being carried out at experimental farms at Rawalpindi, Jullundur and Gurdaspur. It is proposed to start a dry farming station in the south-east Punjab and to apply for financial assistance for this purpose from the Imperial Council of Agricultural Research.
Attention to problems of irrigation in Dry and Preca-Tracts (paragraph 112).	

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER IV.—Agricultural Improvement—contd.	
	Central Provinces.—The action taken on this recommendation has already been mentioned in the first report. Delhi.—Methods of preserving moisture in the land by deep ploughing before rains had set in and frequent harrowing afterwards as well as keeping down the weeds, etc., were explained to the cultivators. Madras.—The existing legislation against stem weevil on cambodia cotton, hairy caterpillar on groundnut and <i>P. Typhlocyba</i> and water hyacinth was in force in different parts of the Presidency. The staff dealing with the palmyra disease was disbanded in 1930 and that dealing with <i>Nephantis</i> (coconut caterpillar) in 1931. The Government of India have prohibited the import of raw coffee seeds produced in foreign countries, in all ports in India, with the object of guarding against the introduction of <i>Stephanoderes berry</i> borer. Bombay.—In the Presidency, no action has so far been taken in this direction and none seems necessary at this stage. In Sind, the damage caused by the boll-worm in recent years on the cotton crop in the Jamrao tract has resulted in a demand for legislation to ensure the removal of cotton stalks from the fields after harvest in order to prevent—or minimise—the carry-over of this insect pest from one cotton crop to another. This question is now under the consideration of the Chief Agricultural Officer in Sind. United Provinces.—Nothing has yet been done in this direction. Punjab.—Attention is invited to the remarks in the previous reports. Burma.—A Bill called the Agricultural Pests' Bill, has been prepared by the Director of Agriculture, Burma, but the consideration of the Bill has been postponed pending decision regarding political separation of Burma from India. Central Provinces.—No action has yet been taken. Madras.—The action taken on this recommendation has already been mentioned in the previous report. Bombay.—The work of pig killing was tackled by the pig killing officer at all centres in parts of Poona, Ahmednagar, Satara, Belgaum, Nasik, Thana and Kaira districts. 178 gun-license holders were trained and 7 gun-clubs organized on a co-operative basis. Government decided in the course of the year that the experiment for the protection of crops from the ravages of wild pigs through pig-killing campaigns organised by a special staff had been tried sufficiently long to enable the cultivators to acquaint themselves with the methods of dealing with the problem. They held that the work was within the limits to which non-official agencies like <i>taluka</i> development associations are restricted. The staff was therefore disbanded from 8th December, 1931. In the Southern Division, fencing with wooden wire fence against the attack of wild pigs is spreading in the Mullad tract. About 20 miles of this fence has been erected up to date, a co-operative fencing scheme to protect an area of 1,014 acres with 5½ miles fence has been worked out at Tegur and share capital has been collected for the purpose of purchasing fence. The destruction of prickly pear which has become the abode of wild pigs continued in Mundargi Petha. A crop protection society with hunting party has been organized at Turkewadi in Chandgad Mahal of the Belgaum district and campaigns against deer have been organized in Gadag and Ron <i>talukas</i> of the Dharwar district.
11. Legislation to deal with Pests and Diseases (paragraphs 113 and 114).	
12. Protection against Wild Animals and Vermin (paragraph 116).	

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER IV.—Agricultural Improvement—concl.	
	In Gujarat, during the year under report, the services of the pig killing officer were utilized for destruction of <i>Nilgai</i>—a species of antelope—locally known as <i>Koze</i> in the Kaira district, where these wild animals are damaging the crops considerably. Experiments and demonstrations with sulphur dusting on mango-hoppers were conducted in the Surat district and use of sulphur for this purpose is being taken up by the cultivators. Experiments on <i>Katra</i> demonstrations were laid out at Nadiad to study the best methods of combating the pest. Special facilities are given for the destruction of wild elephants in the Kanara district by offering rewards and by engaging special staff under the control of the revenue department. In Sind, the propaganda work of the agricultural department to establish the use of "Cyanogas" pumps against the rat pest is bearing fruit and many zamindars have equipped themselves with these implements and are using them in their own rice fields. Further demonstration work in this connection is in progress and arrangements have been made to maintain equipment readily available for distribution. United Provinces.—The proposed Game Protection Society, mentioned last year, has come into being. The protection of game in Jaunsar is, as elsewhere in the hills, probably not very effective and both game birds and animals appear to be on the decrease. In the submontane forests, experimental protection of concentrated regeneration areas against browsing by deer has been tried for some years, and where conditions are otherwise suitable, good results are being obtained. A bulletin on forest fencing has been published and is in general use in the department. The type of game-proof fence most used is a four feet wove wire fence with six or seven strands of barbed wire above it. The example of the forest department is being followed by agriculturists in adjoining areas. Wove wire fencing is now being manufactured locally. Punjab.—This line of work is being continued and developed. Central Provinces.—Attention is invited to the remarks in the first report. Delhi.—During the year, great efforts were made with satisfactory success to remove the superstition of people about protection of deer, rats, locusts, etc. Most of them now are willingly killing these pests and are permitting hunters to shoot the deer on their land. Madras.—The report of the Board of Revenue, referred to in the previous report, was received and it was decided that no action was necessary on this recommendation. Bombay.—Attention is invited to the remarks in the previous report. United Provinces.—Work in the co-operative department on this problem has expanded, and fourteen societies for the consolidation of holdings were registered. Holdings were also consolidated in fifteen villages in estates under the Court of Wards, while in many other villages compact blocks were allotted to tenants when resettling or letting out vacated land. Punjab.—Consolidation of holdings is still proceeding, but financial stringency has made it necessary to reduce the staff by 10 sub-inspectors and one inspector, and further reductions have been ordered. Central Provinces.—Consolidation has further progressed and 57,535 acres of occupied area in the Chhattisgarh division have been consolidated under the Act at a cost of Rs. 19,655 or Re. 0-5-6 per acre during the year 1931. The number of fields in this area has been reduced from 104,469 to 20,596.
CHAPTER V.—The Sub-division and Fragmentation of Holdings.	
13. Action to deal with the problems presented by the Sub-division and Fragmentation of Holdings (paragraphs 124—127).	

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER V.—The Sub-division and Fragmentation of Holdings—concl'd. (Kanal = North-West Frontier Province.—Work has been going on in four villages during 1930-31, but owing to certain objections it was not possible to register the societies before the end of the year. 4,445 kanals (about $\frac{1}{4}$th of an acre) have been brought under process of consolidation, the number of blocks being reduced, or proposed for reduction, from 1,652 to 290, and it is reported that the work of consolidation is complete in three societies though the mutations have not yet been written up and sanctioned. In the fourth society half the area has been tackled. There have been the usual difficulties attendant on pioneer work, but it is reported that the suspicion with which the work was regarded at first is subsiding and the <i>Jirga</i> (Council of Elders) system has been useful in settling disputes. The work is difficult but a start has been made. Baluchistan.—No action is feasible in this province. Delhi.—The co-operative department continues to attempt the repartition of fragmented lands into consolidated blocks on Punjab lines but, owing to financial stringency, it has not been possible to increase the number of sub-inspectors although the scheme is appreciated by cultivators and is growing popular. The Department has by now repartitioned about 2,000 acres of land and created good facilities for better cultivation and improved agriculture. CHAPTER VI.—Demonstration and Propaganda. 14. Review of Methods of Propaganda employed (paragraph 130). Madras.—As in previous years, the veterinary department participated in the Health and Baby week shows and exhibited various items of popular and scientific interest during the year. Advantage was also taken of cattle fairs and exhibitions to conduct magic lantern demonstrations and to give popular lectures. Leaflets published by this department on some of the important diseases of animals were distributed free to the <i>ryots</i>. Magic lantern slides on common contagious and parasitic diseases of animals, etc., were prepared in the Madras Veterinary College and sent out for propaganda purposes in the districts. The motor exhibition vans of the agricultural department were used as far as possible for propaganda work. <i>Ryots</i> (cultivators) were advised on the prevention of infectious and contagious diseases and also on the feeding of calves and cattle generally. Leaflets on the feeding of calves and cattle were also obtained from the agricultural department and distributed. Bombay.—The following methods of propaganda are employed in the Presidency proper:— (1) Ocular demonstration plots in cultivators' fields are arranged. (2) Help is taken of all bodies like the <i>taluka</i> development associations and on-credit co-operative societies in arranging propaganda. (3) Enterprising cultivators are selected through whom propaganda is carried out. The subject is dealt with in the annual reports of the department of agriculture published from year to year. The recommendation of the Royal Commission of not employing a recruit on work which brings him into direct contact with the cultivator until his capacity for such work has been gauged by considerable practical experience is kept in view in arranging propaganda. The methods of propaganda and demonstration employed in Sind have been reviewed and Government approved a scheme of complete reorganization of the work, but owing to the financial stringency it was not feasible to give effect to the proposals. During the year, numerous local demonstrations and small agricultural shows have been held and, in addition, a special "touring party", equipped with a magic lantern and slides illustrating improved agricultural methods and materials, has been organised and is working from village to village in the Barrage areas.	

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER VI.—Demonstration and Propaganda—cont'd. 15. Re-examination of the Policy of establishing Demonstration Farms in the Punjab and the United Provinces (paragraph 131). 16. Establishment of Special Demonstration Farms (paragraph 131).	United Provinces.—Demonstrations of improved seeds and of the use of improved implements and methods of cultivation are given at religious fairs and shows which are attended by large numbers of agriculturists. Special facilities for the supply of improved seed, implements and manures are arranged for at convenient centres. Private farms, numbering over 1,200, with an aggregate area of over 50,000 acres, serve as centres of demonstration. Demonstrations with improved seeds, implements and manures were given during the year on cultivators' own plots aggregating 373,000 acres. Punjab.—The action taken on these recommendations has already been mentioned in the previous report. Central Provinces.—The action taken on these recommendations has already been mentioned in the first report. Assam.—The chief method employed in this province is demonstration on the holdings of cultivators. This method is being continued. N. W. F. Province.—During the period under report no fresh progress has been made but there is room for considerable improvement even with present resources. Delhi.—Attention is invited to the remarks in the previous report. United Provinces.—It has not been possible, owing to the present economic depression, to establish special demonstration farms; and the question of closing certain farms, which are not paying their way, is under consideration. Punjab.—Attention is invited to the remarks in the first report. Madras.—Attention is invited to the remarks in the previous report. Bombay.—There are no such farms in the Presidency proper but the trials conducted on cultivators' fields serve the purpose of such farms. During the year, work on the establishment of five new Government "Auxiliary" demonstration farms in the Barrage areas, mentioned in the last report, was carried out and it is anticipated that these farms will commence working in the <i>kharif</i> season of 1932. The main object of these farms is to carry out in practice, under <i>zamindari</i> conditions, the results obtained from successful research work on agricultural problems being investigated at the research stations and experimental farms of the agricultural department in Sind. In addition, these farms will assist in the production and extension of pure seed of improved varieties of crops and in economic investigations into the cost of production of various crops under conditions of perennial irrigation. United Provinces.—<i>Vide</i> remarks against item 15. Bihar and Orissa.—A special demonstration farm at Banpur (Puri district) was sanctioned during the year but financial stringency prevented its opening. Central Provinces.—The action taken by the local Government has already been mentioned in the first report. Coorg.—A programme designed to demonstrate to <i>ryots</i> in selected areas on their own lands side by side with their crop, the superiority of certain strains of paddy and the effect of using some fertilisers is being carried out. The establishment of demonstration farms has been held in abeyance on account of the present unsatisfactory financial position.

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER VI.—Demonstration and Propaganda—contd.	
17. Establishment of Short Courses on Demonstration and Seed Farms (paragraph 135).	Madras.—On account of the present financial stringency the local Government have postponed the institution of these courses. Bombay.—Attention is invited to the remarks in the previous report. A short course in horticulture was started at the Mirpurkhas fruit farm in Sind and was attended by three students who received practical instruction in orchard management and in fruit culture, etc. A further extension of this system will be considered after the "Auxiliary" farms for demonstration purposes have commenced cultivation. United Provinces.—Co-operative supervisor candidates were trained at three of the demonstration farms for six months, and facilities were provided at other farms for the practical training of those directly interested in agriculture. Punjab.—The action taken on this recommendation has already been mentioned in the previous report. Central Provinces.—Short courses for agricultural and irrigation officers have been established and will be held in alternate years.
18. Comparison of the two systems of carrying out Demonstrations on the Cultivator's own Field (paragraph 136).	Madras.—The views of the local Government have already been mentioned in the first report. Bombay.—Attention is invited to the remarks in the previous report. United Provinces.—Both systems are in vogue and continue to give satisfactory results. Central Provinces.—The action taken on this recommendation has already been mentioned in the previous report. Delhi.—Comparative demonstrations continued to be made on the Zamindars' own lands.
19. Peripatetic Demonstrations of the use of Improved Implements (paragraph 138).	Madras.—The action taken has already been mentioned in the first report. Bombay.—Attention is invited to the remarks in the previous report. In Sind, full advantage is taken of the assistance of the other Departments in this work, e.g., Revenue and Irrigation and Co-operative organizations. United Provinces.—Demonstrations were given in the use of improved implements on the cultivators' own fields in a number of cases, and three fieldmen were attached to groups of co-operative societies for giving similar demonstrations to the members of the societies. Punjab.—The action taken on this recommendation has already been mentioned in the first report. Bihar and Orissa.—Further reduction in the peripatetic outfits of the North Bihar Range to twelve owing to financial stringency has considerably curtailed activities in this direction. Central Provinces.—The action taken on these recommendations has already been mentioned in the first report. Delhi.—160 demonstrations of improved implements were given at different villages, fairs and other gatherings during the year under report, and in spite of their unsatisfactory financial condition the Zamindars purchased a number of improved implements.

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER VI.—Demonstration and Propaganda—contd.	
20. Agricultural Shows and Agricultural Stalls (paragraph 139).	Madras.—The action taken has already been mentioned in the first report. Bombay.—In the Presidency, the holding of small agricultural shows and demonstrations and the grant of rewards, medals and certificates as may be found necessary are being carried on as usual. No action, however, regarding the opening of the stall at the market has been taken. Small agricultural shows are held in Sind from time to time at suitable centres as part of the propaganda work of the Department. During the past year, seven such shows were organised in conjunction with cultivators' fairs and local gatherings and proved most successful. A definite programme for future work on these lines has been determined and put into effect. No regulated markets exist in the districts in Sind and, accordingly, the establishment of permanent agricultural stalls does not arise. United Provinces.—Financial considerations were responsible for a decrease in the number of fairs and shows held. The majority of them were attended by officers of the department with implements and produce for demonstration. Punjab.—Attention is invited to the remarks in the previous reports. Bihar and Orissa.—Work continued as in last year and the work under this head in the North Bihar Range has been extended and improved with the provision of new tents. Central Provinces.—Attention is invited to the remarks in the first report. Delhi.—In addition to several petty shows of agricultural seeds and crops, etc., a ploughing competition was held at Nangloi. The Zamindars took great interest. There were 31 competitors and Rs. 130 were awarded as prizes, to the successful ploughmen.
21. Other Forms of Propaganda (paragraph 141).	Madras.—A third motor exhibition van unit (Morris six-wheeler) was purchased by the agricultural department. The veterinary and public health departments co-operated with that department. Bombay.—Attention is invited to the remarks in the previous report. When finance permits, a demonstration motor-lorry would be of much assistance and would greatly accelerate departmental propaganda in the districts. The possibility of the organization of a demonstration carriage on the North-Western Railway in Sind is engaging the attention of the Chief Agricultural Officer. That officer has issued a new series of vernacular leaflets dealing with items of agricultural improvement in a simple and non-scientific way. These leaflets are being widely distributed among the cultivators in the Barrage areas, especially at agricultural demonstrations and shows. United Provinces.—Touring officers of the agricultural department continued to give lectures, but other forms of propaganda were not possible owing to lack of funds. In the forest department, lectures could not be given owing to pressure of other work and the need for economy. One or two successful demonstration plantations are, however, attracting the attention of local zamindars. Punjab.—The action taken on this recommendation has already been mentioned in the previous reports. Central Provinces.—The action taken by the local Government has already been mentioned in the first report.

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER VI.—Demonstration and Propaganda—<i>contd.</i>	
22. Formation of Divisional Boards and Taluka Development Associations (paragraph 145).	Madras.—The action taken has already been mentioned in the previous report. Bombay.—The work as regards the formation of <i>taluka</i> development associations has received a check owing to financial stringency. The associations are doing useful work in agricultural and co-operative propaganda. In Sind, as a result of the reorganization of the agricultural department there, it has been found necessary to replace the Sind Divisional Board of Agriculture by a local Committee of the Sind Provincial Board of Agriculture. The <i>taluka</i> development associations in Sind are considerably handicapped by lack of funds to enable them to carry on their work and their reorganization has been taken up. It is probable, however, that the <i>taluka</i> is too large a unit for such co-operative bodies to work on satisfactorily and that associations based on units of a group of villages or cultivators with similar interests would prove more effective and more easily supervised and directed. These points are receiving careful consideration. United Provinces.—There was no increase in the number of agricultural associations. Punjab.—The action taken on this recommendation has already been mentioned in the previous report. North-West Frontier Province.—Agricultural associations are gradually springing up. Delhi.—There are no such boards or associations in this province.
23. Use made of Co-operative Societies in Demonstration Work (paragraph 147).	Madras.—Out of the seventeen agricultural demonstration societies in existence, only four did any work. During 1930-31, these four societies cultivated paddy in 73.11 acres of land using improved methods of cultivation and 9.62 acres according to the time-honoured method and thereby demonstrated to the public the superiority of the former method. Improved seed, manure, etc., were also supplied to members to the value of Rs. 45,088 and to non-members to the value of Rs. 1,03,970. There are now eleven agricultural improvement societies, the object of which is to undertake all sorts of agricultural improvements. They were all formed recently and it is too soon to say whether they will succeed. Bombay.—Attention is invited to the remarks in the previous report. United Provinces.—Co-operative societies are freely used for demonstration work. They helped considerably in the distribution of improved seed and in propaganda work. Three fieldmen continued to work in selected groups of co-operative societies. Help was also given to co-operative seed stores and demonstration plots and most of the co-operative group conferences were utilized by officers of the agricultural department for purposes of agricultural propaganda. In two districts improved cotton grown by cultivators was collected and sold through co-operative organizations. Punjab.—Attention is invited to the remarks in the previous reports. Bihar and Orissa.—One better farming co-operative society has been organized in the Balasore area. The need for the organisation of societies of this type has been kept in view by the departmental officers but staff is lacking for operations on a wide scale. Central Provinces.—The action taken by the local Government has already been mentioned in the first report.

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER VI.—Demonstration and Propaganda—<i>concl.</i>	
24. Appointment of a Special Officer for the organisation and systematisation of Propaganda Work (paragraph 148).	Delhi.—The work is done in close co-operation with co-operative staff and societies. The officials of the agricultural and co-operative departments continue to co-operate in doing propaganda for organizing the cultivators on co-operative lines for the formation of better farming societies and introduction of improved implements and seeds. The consolidation holdings societies offer a suitable field for this work. The continuous famine and scarcity of crops seem to handicap appreciable progress. Madras.—The action taken has already been mentioned in the first report. Bombay.—No such officer has yet been appointed either in the Presidency or in Sind. All agricultural propaganda work in Sind under the reorganization scheme is supervised and directed by the Chief Agricultural Officer in Sind. United Provinces.—Funds did not admit of the appointment of a special officer. Punjab.—The action taken on this recommendation has already been mentioned in the previous reports. Burma.—Owing to financial stringency it has not been possible to give the question of a special propaganda officer any further consideration. Bihar and Orissa.—The appointment of such an officer is considered premature by the local Government. Central Provinces.—No such officer has yet been appointed. Delhi.—No special officer has yet been appointed.
CHAPTER VII.—Animal Husbandry.	
25. Work on Sheep and Goat Breeding (paragraphs 158-159).	Madras.—Attention is invited to the remarks in the first report. Bombay.—In the Presidency, no further progress in connection with the sheep breeding scheme has been possible. In Sind, no work of the nature has so far been undertaken, but at the Staff Conference held in November, 1931, definite lines of work were drawn up and will be put into effect as soon as finances permit. United Provinces.—The scheme for research work on goat breeding at the Mission Poultry Farm, Etah, referred to in the previous report, was approved by the Imperial Council of Agricultural Research, which sanctioned a recurring grant of Rs. 25,000 spread over five years and a non-recurring grant of Rs. 7,000 for the work. Punjab.—<i>Sheep Breeding.</i>—The work has been making steady progress. Eighty-eight cross-bred merino rams and fifty-two ewes were issued at concession rates from the Government Cattle Farm, Hissar, to selected breeders in the hilly district of Kangra, as against 190 cross-bred merino rams and 70 ewes last year. Government has extended the scope of this concession to breeders of the above district for a further period of three years with effect from 1st April, 1931. Out of the flock of Bikaner desert sheep maintained at the Government Cattle Farm, Hissar, 30 rams were issued to those districts for which they are suited with a view to improving the local indigenous breed. Useful work is being done in this direction.

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER VII.—Animal Husbandry—contd.	
	<i>Goat Breeding.</i>—The flock of indigenous goats which was started on the Government Cattle Farm, Hissar, in 1928 is giving satisfactory results. Thirty-five male goats of this milk strain were issued from the Hissar Farm to different districts of the Province in order to improve the milking qualities as well as size of the local goats. The results will be watched with interest. N. W. F. Province.—(a) Schemes to improve the <i>Miranzai Dumbas</i> by crossing with <i>Ghilazai</i> breed in the Kurram Valley and to breed pure Merinos in the Kaghan Valley have been submitted but further enquiry will be necessary before they can be implemented. (b) A couple of <i>Pushtikur</i> rams have been imported and successfully crossed with local ewes. Delhi.—Attention is invited to the remarks in the previous report. As a result of propaganda, the staff had been successful in securing 3 applications for the purchase of Bikaneri rams from the Government Cattle Farm, Hissar. These, however, could not be introduced during the year 1931 as they were not available at the said farm. This industry will make rapid headway when the <i>zamindars</i> who have got grazing facilities take it up as a side line to agriculture. The District Board, Delhi, has been requested to ear-mark a sum of Rs. 100 for the introduction of rams from the Hissar Farm, so that these animals may be located at suitable places to improve the indigenous breed. The indigenous breed must be improved by selection, grading and better feeding. Suitable steps are being taken to castrate inferior male lambs. Special attention was paid to the control of contagious and parasitic diseases of the animals. (b) <i>Goat Breeding.</i>—Goats are kept by <i>Gadarias</i> and <i>Kamins</i> for sale for slaughtering purposes and some are kept by poor people for milk. The goats here are of inferior quality and have short hair. Propaganda has been carried out for keeping goats of good breed. Suitable steps were being taken to emasculate male goats not considered fit for breeding. Special care was taken to check the losses from contagious and parasitic diseases. Madras.—The proposal to control grazing in one of the reserved forests and to introduce a rotational system of grazing has not yet materialized. In places where facilities for watering cattle were needed, the forest department continued to provide them both by repairing existing tanks and ponds at its own cost and by permitting the public to repair them at their own cost. The destruction of prickly-pear in reserved forests by the cochineal insect was carried on by the department in several districts with success. This will not only improve the grazing grounds but will also open up fresh areas for grazing which have been useless hitherto. Bombay.—In the Presidency, the forest department has co-operated with the Economic Botanist to Government throughout 1931 in a rotational grazing experiment on 600 acres in the neighbourhood of Poona. The <i>Indian Forester</i> has published an article by the Economic Botanist on rotational grazing, <i>vide</i> also remarks against item 36 below. No action has yet been taken in Sind. The recommendations of the Sind Cattle Committee in this connection are under consideration. United Provinces.—Experiments with new types of fodder have been successful and some of these have been recommended to the public for use. The Working Plan and Research Circle has initiated a new series of experiments in rotational closure of <i>usar</i> (barren) lands to watch the effect on grass production. The question of grazing facility in forest areas has been mentioned in the remarks against item 36.
26. Improvement of Grazing Facilities (paragraphs 181—183).	

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER VII.—Animal Husbandry—contd.	
	Punjab.—The action taken on this recommendation has already been mentioned in the previous reports. Due to financial stringency the progress of the work has been delayed. Bihar and Orissa.—Attention is invited to the remarks in the first report. Central Provinces.—The action taken by the local Government has already been mentioned in the first report. Assam.—The scheme for the improvement of grazing grounds in Cachar by placing a sub-deputy collector on special duty was not successful and was abandoned during the year. The Live-Stock and Dairy Expert submitted proposals for the revision of the grazing rules with a view to the prevention of over-stocking and the elimination of "Scrub" bulls. The scheme, referred to in last year's report, under which the agricultural department will take over one of the large grazing areas for the control of cattle breeding and grazing will probably materialize in the near future. It is also proposed to control the breeding and grazing in a large forest reserve (approximately 30,000 acres) in conjunction with the forest department. Delhi.—Grazing pastures are not sufficient in this Province. Where there are such pastures people are advised to organise the same and to make compartments in them by making <i>bunds</i>, etc., so as to control rain water in them. Madras.—Attention is invited to the remarks in the previous report. Bombay.—Considerable progress has been made in the use of silage and a number of <i>pucca</i> silos has been built this year. In Sind, no action has yet been taken and the use of silage is practically unknown. Under post-Barrage conditions the matter will become of greater importance and will then receive consideration. United Provinces.—Lack of funds again prevented the initiation of a concentrated effort to demonstrate the advantages of silage making. Experiments have, however, shown that fodder can be stored in earthen pits for two years without deteriorating. Punjab.—The action taken on this recommendation has already been mentioned in the previous reports. Bihar and Orissa.—Attention is invited to the remarks in the previous report. Central Provinces.—The action taken by the local Government has already been mentioned in the first report. Assam.—Experiments on the Government farms were continued. At Jorhat, a new departure during the year was the use of a wild paddy, which grows in marshes and ditches throughout the province. The resulting silage was of excellent quality and was freely eaten by the farm stock. Delhi.—Six silo pits were made with <i>Chari</i> fodder for demonstration purposes. Some <i>zamindars</i> have expressed their desire to make silo pits next year. Coorg.—Efforts are being made to popularise silage among cattle owners.
27. Promotion of the use of Silage (paragraph 185).	

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER VII.—Animal Husbandry—contd.	
28. Investigation of the correct period at which to harvest Cereals (paragraph 186).	Bombay.—No action in this line of work has so far been taken in the Presidency except at the Jalgaon farm where experiments on the harvesting of <i>jowar</i> at different periods are in progress. This matter is receiving attention in connection with the improvement of the yield and quality of cereal crops upon which research work is being carried out intensively at the Agricultural Research Station, Sakrand.
29. Encouragement of the cultivation of Leguminous Fodder Crops (paragraph 187).	Madras.—Attention is invited to the remarks in the previous report. Bombay.—In the Presidency, these are encouraged wherever facilities exist. <i>Berseem</i> is being introduced to a limited extent on the Deccan Canals. Trials of various suitable leguminous fodder crops are being carried on by the agricultural department in Sind and propaganda work in the districts, based on the results of these trials, has been intensified. Demonstrations and leaflets are being utilised to encourage this practice among the cultivators, especially in the Barrage areas, where the inclusion of a percentage of leguminous crops in rotation systems is of great importance. Special attention is being given to the encouragement of the cultivation of <i>berseem</i> particularly on <i>kalar</i> lands where this crop has a definitely reclamatory effect in addition to providing high yields of nutritious fodder. United Provinces.—Efforts to introduce heavy yielding crops, such as lucerne, continue. Punjab.—The action taken on this recommendation has already been mentioned in the previous reports. Bihar and Orissa.—Work continued as in last year and considerable progress has been made in getting planters and larger cultivators to put down plots of elephant grass for perennial fodder. Central Provinces.—The action taken by the local Government has already been mentioned in the first report. Assam.—At Upper Shillong, white-clover is under experiment in permanent pastures. In the plains, at Khanapara farm local legumes are being encouraged by manuring of natural pastures. Cowpeas have given the most satisfactory results as a leguminous fodder crop hitherto. <i>Berseem</i>, lucerne, <i>shaftal</i>, etc., have not been successful. Baluchistan.—The action taken on this recommendation has already been mentioned in the previous report and the work is being continued. Delhi.—The advantages of and necessity for growing leguminous crops are being preached and the <i>zamindars</i> have begun to grow <i>guara</i>, peas, etc., for fodder.
30. Progress made in establishing pure and improved types of good Cattle (including buffaloes) with special reference to the policy of producing "dual purpose cattle" (paragraphs 188—198).	Bombay.—Farms exist for several of the breeds of cattle of the Presidency. Those breeds which are suitable for both milk and draught are being bred as dual purpose animals. In this Presidency there are two such breeds, the <i>Gir</i> and the <i>Kankrej</i>, and farms exist for both breeds. The Kandivlee <i>Gowshala</i> provides facilities for breeding the <i>Gir</i> breed. Great advance has also been made in the increase of the milking quality and the draught qualities are receiving special attention. The purely draught types are being bred as such. During the year, 3 <i>taluka</i> development associations have made a beginning in establishing cattle breeding farms for the <i>Nimari</i> breed. Negotiations are in progress for the organization of breeding <i>Dangi</i> cattle in the Nasik <i>Pinjrapole</i>.

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER VII.—Animal Husbandry—contd.	
	The Sind Cattle Committee has issued its report which embodies many valuable suggestions for increasing the number of cattle in the Barrage areas and for improving their quality. The Red Karachi (Sindhi) breed of cattle is being dealt with at the Willingdon Cattle Farm, Malir, and the Cattle Committee has recommended the establishment of two additional government cattle-breeding farms, one for the <i>Thar Parkar</i> breed (the ideal "dual purpose" animal for the Barrage areas) and one for the <i>Bhagnari</i> breed of North Sind. The recommendations of the committee are under consideration.
	United Provinces.—Work at the Madhurikund and Manjhra cattle farms continued on the lines already reported. A grant of Rs. 3,000 was made to the Allahabad Agricultural Institute, Naini, for the purchase of Sindhi cows and the sale of calves at fixed rates for breeding purposes.
	Punjab.—The financial resources of district boards have suffered to such an extent that it is becoming more difficult to find a ready sale for the large output of stud bulls from the Hissar Farm. Notwithstanding the present depression in agriculture, a considerable number of pure Hissar bred bulls were supplied during 1930-31 to districts from the Government Cattle Farm, Hissar. On March 31st, 1931, there were 3,517 approved bulls working in the district under the supervision of the Department. Special effort is being made to foster the dual purpose type of cattle by supplying as large a number as possible of pedigree bulls from the Government breeding farms to various districts in the Province, also by castrating unsuitable bulls on a large scale in the villages. Special live-stock schemes subsidised by Government are in operation in certain areas most suited to cattle breeding including the Haryana and Dhanni cattle tracts.
	Bihar and Orissa.—The dairy farm at Monghyr has been closed down owing to financial stringency. Nine <i>Thar Parkar</i> bulls bred at the Kankrej farm were sold in the districts of Manbhum and Sambalpur to <i>bona fide</i> breeders. Ten <i>Murra</i> buffalo bulls were distributed from the Sepava farm in the North Bihar Range but difficulties are being experienced with the chief agencies of distribution, viz., the district boards; and the want of a live-stock inspector has added to the difficulties in carrying on the work successfully.
	Central Provinces.—The action taken by the local Government has already been mentioned in the first report.
	Assam.—<i>Khanapara Cattle Breeding farm.</i>—The grey Bihari type, referred to last year, has been discarded. The breeding policy now is to grade up the local cattle by using Scindhi bulls on selected local cows. A few pure Scindhi cows are kept in order to produce acclimatized pure Scindhi bulls. The cross-bred Scindhi-Assamese calves born up-to-date are most promising. The total stock at present is 200 head. <i>Upper Shillong farm.</i>—The breeding of milking stock by the use of an Ayrshire bull on Haryana cows was continued. Total stock about 100 head. <i>Jorhat farm.</i>—A small herd of grey Bihari type is maintained. Total stock about 40 head. <i>Sylhet Cattle Breeding farm.</i>—Some progress has been made, but the development of the farm has been hampered by financial stringency. A small herd of Scindhi heifers has been purchased from which to breed pure Scindhi bulls for use on selected local cows. Development of the land and erection of buildings on a reduced scale is proceeding.
	North-West Frontier Province.—Seventy more Dhanni stud bulls have been introduced. Grants-in-aid to district boards increased from Rs. 7,000 to Rs. 17,000. These bulls covered 7,182 cows. There are also 21 buffalo-bulls at stud who have covered 129 buffalo-cows. The aim, as stated, is to produce a good draught animal, it now remains to be considered whether the type being imported which is solely good for draught but not for milk is the best and most economical type for the Province.

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER VII.—Animal Husbandry—contd.	
	Delhi.—The improved types of cattle found in this Province are the Haryana and Hissar breeds. The fodder conditions during the year under report remained favourable. No bull either locally or from Government Cattle Farm, Hissar, was purchased during the year. The necessity of purchasing a good number of bulls for distribution in villages was impressed on the District Board, which has set apart an allotment for this purpose, but nothing has been spent so far in this respect. The District Board was asked to supply bulls for the Delhi Province as the paramount need of the day is the improvement of cattle breeding industry. Several applications from <i>zamindars</i> for the supply of stud bulls have been secured and were forwarded to the District Board for disposal. 42 stud bulls were at work, out of which three casualties occurred. The veterinary department is doing its utmost to improve cattle breeding and progress is apparent. Registers for entering good cows and buffaloes have recently been started in order to check the increase or decrease in any year. Many <i>Brahmani</i> bulls are let loose in the Province and special attention is being paid by the department for approving those found fit for breeding purposes and castrating the rest. The District Board, Delhi, has been requested to frame bye-laws to discourage the practice of letting loose scrub bulls. The matter is reported to have been referred by the District Board to the Chief Commissioner, Delhi, for his sanction. Propaganda for cattle breeding was done at a day show held in the Delhi Province and prizes were awarded to the owners of good cattle to promote keenness and competition. Buffalo Breeding.—The breed of buffaloes in the province is good. The public realises the importance of keeping dams and sires of milking strains and efforts are also made to keep a check on letting loose of scrub buffalo bulls. The staff has secured applications for buffalo bulls and the same are being forwarded to the District Board, Delhi, for providing necessary allotment for this purpose, so that suitable steps may be taken to purchase them and concentrate them in the tract most suited for buffalo breeding. Goorg.—One Scindhi bull is being maintained for the purpose. Madras.—During the year, the Madras Prevention of Adulteration Act, 1918, was in operation in 17 municipalities (including the Madras Corporation) and one union board in respect of all kinds of food. One thousand nine hundred samples mainly of <i>ghee</i> and milk were received by the public analyst for analysis under the above Act. It was found that a large proportion—about 40 per cent.—were adulterated. In many cases legal action has been taken with success. It cannot yet be said that the introduction of the Act has resulted in any marked improvement. The Madras Milk Supply Union, which has 21 societies affiliated to it, was able to sell milk to the value of Rs. 1,58,819 and milk products to the value of Rs. 3,917, during the year 1930-31. The Union did not, however, work at a profit. Its loss amounted to Rs. 11,060. The Dairy Society at Madura was able to sell milk to the value of Rs. 899. It incurred a loss of Rs. 211. Bombay.—The scheme for the establishment of a Dairy District to maintain 20,000 dairy cattle eventually in one self-contained area is still under consideration. No action has been taken in Sind. Bengal.—A new Bill for the amendment of the Bengal Municipal Act has since been framed and is now under the consideration of the Local Government. Provision has been made in the Bill for securing and maintaining the purity of milk-supply. United Provinces.—No action was taken by the agricultural department on account of lack of funds.

31. Improvement of the Urban Milk and *Ghee* (clarified butter) supply (paragraphs 199—201).

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER VII.—Animal Husbandry—contd.	
	Eight new co-operative societies were registered for the joint sale of <i>ghi</i> (clarified butter). These societies, however, had a very trying year owing to abnormal fluctuations in the price of <i>ghi</i>. Their total sales amounted to about 20,500 lbs. The public health department continued to devote attention to the detection and punishment of offences involving the adulteration of <i>ghi</i> and milk. The number of samples collected, though increasing every year, is still far below the number necessary to exercise an effective check on fraudulent trading. Medical officers of health and sanitary inspectors are at present the only agencies for collecting samples. A considerable expansion in the collecting agency and in the staff of the public analyst's branch is necessary before the dairy industry can receive the protection it requires. The prevailing financial stringency hampers progress. Punjab.—The action taken on this recommendation has already been mentioned in the previous report. Central Provinces.—The action taken on this recommendation has already been mentioned in the previous report. Assam.—The organisation of co-operative milk societies has been continued. A milk union and 18 societies have already been formed, in four groups. North-West Frontier Province.—There are 11 Montgomery bulls at stud; these have covered 430 cows. Delhi.—Efforts are being made to foster pure and improved type of buffaloes in the province. Improvement in this work depends upon the co-operation of municipalities with the department. The municipalities are again being requested to supply funds for buffalo bulls of good milk strain for the purpose of getting the cows of the municipal area covered by them so that the milk production of the existing cows is increased. Bombay.—The policy recommended is being followed in the Presidency and the work is gradually progressing. A few new societies started work in this direction in the year under report. No action has been taken in Sind. United Provinces.—Breeding bulls have been supplied to some co-operative societies, but no special breeding societies have been organized. Punjab.—The action taken on this recommendation has already been mentioned in the first report. There is nothing further to report except that sheep breeding societies have not made any progress. Central Provinces.—The action taken on this recommendation has already been mentioned in the first report. Assam.—<i>Vide</i> remark against item 31. Delhi.—The organisation of co-operative cattle breeding societies is very useful but people do not seem to be in their favour at present. Two applications from <i>zamindars</i> have been secured by the staff during the year under report for starting societies in their villages, i.e., Serai Kala Khan and Khera Khurd. The co-operative department is being requested to start societies there if possible. The cattle breeding society started over 2 years ago has awakened a real interest in the mind of cultivators as to the importance of the better breed of cattle in the economic life of the village and has eliminated a good number of useless cattle which have been replaced by better animals.

32. Organisation of Co-operative Breeding Societies (paragraph 202)

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER VII.—Animal Husbandry—contd.	
33. Livestock Shows and Fairs (paragraph 203).	Madras.—In view of the present economic depression, the holding of the <i>shandy</i> (fair) at Ongole, referred to in the previous report, has been kept in abeyance. Bombay.—Several shows were held again in the Presidency, generally with the aid of local bodies and <i>taluka</i> development associations. The holding of cattle shows is now on the increase. Wherever possible, cattle sections are included in the programme of small agricultural shows organised by the agricultural department in Sind in the districts and prizes are awarded for different classes of live-stock, ploughing competitions, etc., United Provinces.—Livestock shows and fairs are usually held at the same time as agricultural shows. Punjab.—129 cattle fairs were held during the year as against 139 last year. Special departmental exhibits of livestock were arranged on the fair grounds in as attractive and instructive a manner as possible. The award of prizes at small village shows, which is a regular feature of our live-stock propaganda, is giving very encouraging results in the breeding areas. North-West Frontier Province.—Three live-stock shows and fairs were held at Bannu, Hazara and Dera Ismail Khan. Their effect in regard to cattle-breeding is good, but their usefulness in regard to horse-breeding is more doubtful. Baluchistan.—A horse and cattle show is held annually at Sibi. Delhi.—No permanent cattle fair is held in the province but five one-day cattle shows were held during the year at five central places. Rs. 1,000 allotted (Rs. 600 by the Delhi Administration and Rs. 400 by the District Board, Delhi) were awarded among the <i>zamindars</i>. Coorg.—Two successful shows were held in two important centres. All possible assistance and encouragement is being rendered by Government and the District Board. Madras.—The 'Burdizzo' emasculator is now being used more freely and castration by this method has become more popular. The total number of castrations performed during the official year 1930-31 being 23,487 as against 12,742 of the previous year. Bombay.—Castration is taking on wonderfully well, even by such bodies as <i>Pinjrapoles</i>. Castration is now accepted as a necessity in improvement of cattle. In Sind, the castration of "scrub" bulls and male animals unsuitable for breeding purposes, is advocated by the agricultural department. United Provinces.—The number of castrations carried out rose from 3,247 in 1929-30 to 16,530 in 1930-31. Punjab.—390,422 castrations of all live-stock were performed as against 364,191 in the previous year. Central Provinces.—97,922 castrations were performed. Assam.—There is a working arrangement between the agricultural and veterinary departments that when a bull is placed out, a veterinary assistant castrates the undesirable bulls in the locality. The number of castrations of weedy bulls rose from 7,219 to 12,233. N.-W. F. Province.—45,672 castrations were performed.
34. Castration (paragraph 207).	

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER VII.—Animal Husbandry—concl'd.	
35. Control of Livestock improvement (paragraph 208).	Delhi.—5,000 castrations were performed in 1931 against 5,839 in 1930. Madras.—Attention is invited to the remarks in the first report. Bombay.—In the Presidency, this work is being carried out in conformity with the recommendation of the Royal Commission through a whole-time officer of the agricultural department. In Sind, there is no whole-time officer in charge of livestock improvement. The work is confined to the Red Karachi Dairy Breed of which a herd is maintained at the Willingdon Cattle Farm, Malir. The manager of the farm acts in an advisory capacity in matters relating to animal husbandry and dairying. Advice and assistance are given when necessary by the livestock expert to the Government of Bombay. United Provinces.—The existing practice continues. Punjab.—The action taken on this recommendation has already been mentioned in the previous reports. Bihar and Orissa.—Owing to the financial stringency the work of a live-stock inspector is being carried on by an overseer of the department. N.-W. F. Province.—Stud bulls of Awankari breed are being issued by the Superintendent, civil veterinary department, to farmers for improvement of the local breed.
CHAPTER VIII.—Forests.	
36. Grazing in Forest areas and Fodder supplies from those areas (paragraphs 218-219).	Madras.—As usual, the removal of grass was generally allowed free in head-loads and on payment of a small fee in cart-loads. Although attempts have been made to induce <i>ryots</i> to take to the system of stall feeding cattle on the edge of reserves with grass cut from the reserves, they have not proved successful. The question of introducing superior fodder grasses has been engaging the attention of this department and experiments have been undertaken to introduce such grasses in suitable areas. There has been a marked decline in the number of cattle taken out under licences for grazing in reserved forests and there is a consequent fall in the forest revenues. The reasons for this decline are now under investigation; if it proves to be the fact that the disadvantage of forest and communal grazing are being realized and that better provision is being made for the feeding of cattle in another way, a first step in the improvement of the cattle of the country will have been taken. Bombay.—The Economic Botanist to Government published in the <i>Indian Forester</i>, Volume LVII, No. 12, for December 1931, an account of the experiment he is carrying out in connection with the improvement of forest grass land. It is very forcibly brought out in that article that the chief factor on which improvement of grass lands depends is the imposition of a limit on the number of cattle admitted to graze in a forest. This, as stated in the report for last year, can only be done with the co-operation of the people. In collaboration with the agricultural department an experiment was started in an area of 600 acres of forest in Loni Kalbhor, a village about 10 miles to the east of Poona, with the object of giving practical effect, with the co-operation of the people, to the system of controlled grazing. By the conduct of this large scale experiment it is hoped to demonstrate to the people the advantages which they stand to gain if they assist in making a success of rotational grazing.

Subject (with paragraph of the Report).	Action taken by the Government (or Administration.)
CHAPTER VIII.—Forests— contd.	Bengal.—The question of the establishment of <i>bathans</i> (cattle stalls) and introduction of stall-feeding in Kalimpong Forest Division is under consideration. United Provinces.—(i) In the Dehra Dun Forest division, the question of grazing by <i>Gujars</i> (a pastoral tribe) arose in connection with the new working plan and it was found necessary, in the interests of the forest, to restrict the number of buffaloes allowed in the Grazing Working Circle of the division. In order not to inflict any hardship on the <i>Gujars</i> some of the <i>kholes</i> (narrow eroded valleys of the southern face of the Siwaliks) in the Saharanpur division were opened to them and it is hoped that at least some of the <i>Gujars</i> may be accommodated in those <i>kholes</i> under a regular scheme of management. (ii) A further development in the Saharanpur Forest division was the sowing of 125 acres under the <i>taungya</i> system according to which the raising of agricultural crops by cultivators is combined with the sowing of forest trees. The object of this scheme is to sow a mixture of valuable timber bearing and fodder bearing species, and if the scheme can be expanded and extended considerably increased supplies of cattle fodder may result. That may also improve the quality of grass for grazing, because a better quality of grass than exists in those areas at present should grow in the semi-shade of the trees to be sown. (iii) A trial is being made in the Kumaun hills in the preservation of oak forests through the agency of <i>panchayats</i> of groups of villages. These oak forests are a valuable source of fodder at certain seasons of the year, but the recent uncontrolled treatment of these areas is resulting in their rapid deterioration and disappearance. Punjab.—The action taken on these recommendations has already been mentioned in the previous reports. Central Provinces.—The action taken on this recommendation has already been mentioned in the first report. Assam.—The Livestock and Dairy Expert examined the matter of grazing facilities at length and submitted a comprehensive scheme for the reservation of an area for departmental control of cattle breeding and the encouragement of castration among the cattle of professional graziers. At the same time he also proposed certain modifications in the existing grazing rules introducing differential rates for the uncastrated bulls of professional cattle owners and exempting selected breeding bulls. His proposals were thoroughly discussed at a conference held for the purpose and were finally approved. Steps are now being taken to give effect to his proposals. Action is also being taken to reserve a large area of land at Lanka in the Nowgong district with a view to control of grazing so as to subserve breeding purposes. Government are considering separately the question of adopting the standard of grazing fees charged for animals in the district of Jalpaiguri in Bengal. A considerable area of reserved professional grazing grounds, which are at present not in use and are not likely to be required for future use as being unsuitable, has been thrown open to settlement with the immigrant population and the local people in the districts of Kamrup and Nowgong under the colonisation system that is in force in those two districts, in order to meet the demand for lands for expansion of ordinary cultivation. The total area reserved for village grazing in the province at the end of June, 1931, stood at 241,337 acres, as against the total area of 5,565,561 acres, settled for ordinary and special cultivation. In 1929-30, the total area of village grazing grounds was 237,303 acres. N.-W. F. Province.—In the Kaghan Division grazing on permits is allowed in all reserves which are not under regeneration but the best and ideal grazing grounds, which are ample, lie outside the reserve forests and are used by agriculturists during the summer each year. In spite of controlled grazing on permits, some areas in the reserved forests have been grazed over heavily and a scheme of rotational closures must be taken up shortly. Grass-cutting is permitted in certain areas on nominal fees. In the Siran Division, an area of 35,654 acres out of 35,684 acres was open to grazing and grass-cutting had been allowed over 8,274 acres.

Subject (with paragraph of the Report.)	Action taken by the Government (or Administration.)
CHAPTER VIII.—Forests— contd.	In the Gallis Division, the quality of grazing in the reserves is poor and in the <i>Guzaras</i> worse. In the latter forests this is due to excessive unrestricted grazing. Areas not under regeneration are open to grazing in the whole Province. Free lopping of broad-leaved trees has been allowed in the Pine Working Circle of the Gallis this year as a concession to the local people. Fodder reserves should be made in the <i>Guzaras</i> while the agricultural department might, with advantage, introduce the best fodder grasses or other plants with high fodder value. Baluchistan.—As stated in the previous report, the people of this Province being nomads, no remedial action is likely to be effective. Madras.—Attention is invited to the remarks in the previous report. Bombay.—The truth of the remarks made last year regarding difficulties in maintaining fuel depôts is borne out by the fact that during the year under report Government had to order the closure of the departmental fuel depôt at Ankola in the Kanara district and revive the system of issuing permits for fuel headloads and cartloads from forests, as it was found impossible to run the depôt without loss. A working plans officer for Sind has been appointed. One of his duties will be to prepare schemes for the creation of nearly 10,000 acres of forest plantations in the Larkana district on the Punjab mode for which a regulated and assured supply of water will be provided from the Lloyd Barrage Canals. Punjab.—The action taken on these recommendations has already been mentioned in the previous reports. N.-W. F. Province.—In the Kaghan Division, firewood is available in large quantities "free of cost" and no investigation is, therefore, necessary. In the Siran Division, cow dung and wood are the favourite fuel of the agriculturists. They get these in abundance practically free of cost. In the Gallis Division, the people do not burn cow dung which is much valued as manure for the fields, the soil of which is poor. The agriculturists get their supply of fuel from the dead and fallen wood in the reserved forests or <i>Guzaras</i> whichever are nearer to their homes. Firewood reserves can be increased by the afforestation of the bare hills in the district but the difficulty is that they are owned by private persons and Government cannot take any direct action. Enterprising people are offered free advice and help. Madras.—In Guntur, the <i>Erukulas</i> were granted free permits for the removal of date leaves for mat-making and certain wild creepers for basket-making. In Chittoor, the forest department provides wood for the local manufacture of hair combs. Steps are being taken to increase the supply of this wood. In Anantapur, attempts were made to interest the villagers in the manufacture of palmyra jaggery from the Idupalapaya palmyra plantation but without success. Bombay.—A pamphlet was issued in English and Marathi to enlighten <i>hirda</i> farmers on the correct methods of collection, preparation, etc., and propagation of <i>hirda</i> (<i>Terminalia Chebula</i>). By the adoption of the methods advocated in the pamphlet an improvement in the quality and increase in the quantity of <i>hirda</i> are expected. Bengal.—Experiments on tapping of <i>Garjan</i> trees for <i>Garjan</i> oil are in progress in the Chittagong, Chittagong Hill Tracts and Cox's Bazar Divisions. Administrative approval has been accorded to the purchase of four charcoal-making machines for use in the Kurseong Division.

37. Investigation into cost and efficiency of Wood and Charcoal relative to that of Coal (paragraphs 220-221).

38. Initiation of new and development of existing Forest Industries (paragraph 224).

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER VIII.—Forests—<i>contd.</i>	United Provinces.—The match industry at Bareilly continues to develop and the use of <i>semul</i> (<i>bombax malabaricum</i>) from Government forests for splints (for matches) is increasing, though the trade slump limited the output of matches during the year. Fairly satisfactory samples of half-bleached paper were obtained as a result of the experiments mentioned last year in the manufacture of a cheap variety of bleached paper from <i>dub</i> grass. The resin industry continued as usual. It is a great help to agriculturists living near the forests. Punjab.—The action taken on this recommendation has already been mentioned in the first report. N.-W. F. Province.—Financial circumstances have made the institution of new forest industries impracticable. Baluchistan.—No new industries have been initiated.
39. Disafforestation of Forest Lands required for construction of Small Irrigation Works (paragraph 225).	Bombay.—In order to make the Ghotki Canal project in Sind a paying scheme, Government have approved the proposals to disafforest more than half the total area of the inland forests of the Sukkur district on the left bank of the Indus and a careful examination of the areas is now being carried out. Similarly under the Begari Canal remodelling project, some 9,929 acres from the Kot-Sultan and Garhi-Yasin forests will be disforested. Bengal.—This recommendation does not apply to Bengal. Punjab.—This recommendation is not applicable to the Punjab. N.-W. F. Province.—Attention is invited to the remarks in the previous report.
40. Control of Shifting Cultivation (paragraph 228).	Madras.—Attention is invited to the remarks in the previous report. Bombay.—Attention is invited to the remarks in the previous report. Bengal.—In the Chittagong Hill Tracts Division, the question of controlling shifting cultivation in the Maini valley is under consideration, but no definite scheme has been framed yet. United Provinces.—The use of <i>taungya</i> as a means of regenerating forest areas is extending and will be given further attention. N.-W. F. Province.—There is no shifting cultivation in the forests of this province. Baluchistan.—There is no shifting cultivation in this province.
41. Classification of Forest areas (paragraph 229).	Madras.—The forest areas in this Presidency have already been classified. Bombay.—Attention is invited to the remarks in the previous report. Bengal.—In the Chittagong district, 6,183 acres have been disforested and 65,178 acres afforested. United Provinces.—No action is required in these provinces. Punjab.—Attention is invited to the remarks in the first report.

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER VIII.—Forests—<i>contd.</i>	N.-W. F. Province.—Present classification of forest areas into Government reserves needs no revision, but in the interests of agriculturists re-classification of <i>Guzaras</i> would appear necessary as under:— (1) Areas fit for growing trees for timber or firewood. (2) Areas fit for pasture. (3) Areas which should rigidly be protected to prevent erosion. Breaking of land in such areas should be prevented in future. The <i>Guzara</i> forests in the Hazara district could be made, with sound management, to pay, resulting in great advantage to the villages in the shape of cheaper timber and firewood and considerably improved pasture together with the provision of funds which could be made available for rural uplift and work of a similar nature. Baluchistan.—The forest areas have already been classified and need no revision.
42. Establishment of Village Forests (paragraph 230).	Bombay.—The result of the experiment of constituting village forests for management by village <i>panchayats</i> has not been very encouraging in this Presidency. In the West Khandesh district, pasture forest of Ghodada in the Sakri <i>taluka</i> which had been constituted village forest and handed over to the village <i>Panchayat</i> in the year 1910-11 was found to have been mismanaged, illicit cuttings and lopping being common in spite of repeated warnings and had to be resumed by Government in 1928. In the Southern Circle, there are 17 <i>Panchayats</i> (including 2 formed in 1931) managing village forests of 25 villages, the majority being in the coast <i>talukas</i> of Kanara. Here also the experience is discouraging. Few of the <i>Panchayats</i> have shown any activity in the matter of planting new trees, clearing grazing grounds of thorny growth and generally improving the village forests; while in some of the villages proper management and protection are lacking owing to friction between members of the <i>Panchayats</i>. Bengal.—This recommendation does not apply to Bengal. United Provinces.—The rules for <i>panchayat</i> forests in the Kumaun hills were approved by Government and promulgated. The movement continues to make steady progress and the special <i>panchayat</i> officer was retained for another year. The areas in the plains which were selected for experiments in the formation of small village fuel forests proved unsuitable. Punjab.—Attention is invited to the remarks in the first report. Bihar and Orissa.—Attention is invited to the remarks in the first report. N.-W. F. Province.—As remarked last year, <i>Guzara</i> forests correspond very closely to village forests as defined by the Royal Commission. Any proposed increase will meet with strong local opposition.
43. Creation of Minor Forest Divisions (paragraphs 231-232).	Bombay.—Control over pasture and certain areas of forest proper can be secured by the formation of such lands into minor divisions, the number of which can be determined when the area available and its distribution are finally known. The first step in this direction is the appointment of experienced officers to carry out the necessary investigations in the field, to collect statistics to reclassify areas, map them finally and frame complete proposals for their management and allotment to new forest divisional charges. Owing to the prevailing financial stringency, it is not possible to proceed with the question at present.

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER VIII.—Forests—<i>concl'd.</i>	Punjab.—This recommendation is not applicable to the Punjab. Bihar and Orissa.—Attention is invited to the remarks in the first report. N.-W. F. Province.—A new Forest Division was created in October, 1930, for the trans-Indus forests and control over the rivers in the Province, and during the year under report, two forest divisions were amalgamated into one for economy. Bombay.—The agricultural department is unable to undertake the work of training forest officers in agriculture without an augmentation of the existing staff. In the present financial stringency it is not, therefore, possible to give effect to the recommendation. Punjab.—Attention is invited to the remarks in the first report. Bihar and Orissa.—Attention is invited to the remarks in the previous report.
44. Institution of Short Courses in Agriculture for newly recruited Forest Officers (paragraph 233).	
CHAPTER IX.—Diseases of Livestock and their control.	Madras.—Serum-simultaneous inoculations against rinderpest were performed on an extensive scale and inoculation by the serum-alone method against this disease was completely given up except in the case of compulsory inoculations enforced under the Madras Cattle Disease Act in cattle fair areas. The total number of serum-simultaneous inoculations performed during the year ending 31st December, 1931, was 114,604. The special rinderpest officer is investigating the question of the possibility of introducing fees for serum-simultaneous inoculations. Bombay.—In the Presidency, this method of protection is being extended and in addition to the stock on Government farms, cattle in 5 villages were protected. The total number of cattle inoculated was 1,848. In one village the work was unsuccessful, in that although the disease temporarily subsided in the village after inoculation it was subsequently reintroduced by uninoculated stock and then spread to those inoculated, of which 134 were attacked by the disease and 27 died. This work was carried out in the month of June and after full enquiries the conclusion was arrived at that the virus used was not fully potent when received; probably it was killed or attenuated by heat. In most of these villages, reports indicate that the operations were a complete success, in that where wholesale inoculation was undertaken the disease was stamped out, and in other cases, those inoculated remained immune although disease continued to exist in the village. In one village the work was too recent to judge of results. In Sind, as an experiment, serum-simultaneous inoculation was carried out in one <i>taluka</i> of the Hyderabad district when 165 cattle were protected. An attempt was made at another place in Thar Parkar district but by the time virus and the necessary serum were received, the disease had died out and the owners refused to have their cattle inoculated. United Provinces.—A veterinary inspector was deputed during the year to carry out serum-simultaneous inoculations. Punjab.—No large scale application of this method of inoculation could be undertaken owing to financial stringency. Bihar and Orissa.—The question of extending this method of inoculation on a wider scale is receiving attention. Towards the close of the year, cattle belonging to the Kanika Raj in the district of Cuttack were protected with satisfactory results. It is now proposed to extend the method to other parts of the district and also to Puri district. The livestock of the government cattle farm at Patna were inoculated by this method during the year.
45. Adoption of Serum-simultaneous method of Inoculation against Rinderpest (paragraphs 237—244).	

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).												
CHAPTER IX.—Diseases of Livestock and their control—<i>contd.</i>	Central Provinces.—12,168 animals were protected by this method. Owing to financial stringency the method was discontinued from August, 1931. N.-W. F. Province.—One veterinary assistant surgeon was trained at Muktesar in the method of serum-simultaneous inoculation. Baluchistan.—As previously reported, the work is impracticable in this Province. Delhi.—Serum-simultaneous inoculation has not been started in the Province yet. This work will be taken up when experienced staff and funds are available. Coorg.—Preliminary experiments with the serum-simultaneous method among hill cattle have been held with encouraging results. In future, the serum-simultaneous method of inoculation will be adopted in all outbreaks of rinderpest in the villages.												
46. Compulsory Inoculation (paragraph 244).	Madras.—All the necessary preliminary arrangements for the opening of a Serum Institute in Madras, referred to in the last year's report, are being made and it is likely that the institute will start producing serum during the early part of the official year 1932-33. The question of the introduction of legislation to make inoculation against rinderpest by serum-simultaneous method compulsory will be taken up on receipt of the report of the special rinderpest officer, who is investigating the point. Bombay.—In the Presidency, no action has yet been taken. As regards Sind, Government decided that in the case of the cattle of milk-sellers, it was not necessary to take any steps in the matter. As regards the rural population, it would require a very large staff of veterinary police to enforce this measure. Burma.—The Corporation of Rangoon has added the following new rule as Rule 13A to the rules for Dairies and Cowsheds contained in Chapter XIII, Schedule II, to the City of Rangoon Municipal Act. This has been published for criticism and will be submitted for sanction in due course. "Every owner of milch cattle kept for sale of their milk shall cause or permit such cattle to be inoculated against rinderpest". Action as regards other municipalities has been postponed until the new Burma Municipal Act is passed. N.-W. F. Province.—Public opinion in this Province is averse to any compulsion. Delhi.—This system is not in force in the Province though its necessity in out-breaks where the <i>zamindars</i> do not agree to have their cattle inoculated is felt. The veterinary department is doing its best by persuasion and propaganda. The number of inoculations as compared with the same period of last year is as follows:— <i>No. of inoculations performed.</i> <table><tr><th colspan="2">Rinderpest.</th><th colspan="2">Hæmorrhagic Septicæmia.</th></tr><tr><th>1930.</th><th>1931.</th><th>1930.</th><th>1931.</th></tr><tr><td>1,440</td><td>2,193</td><td>860</td><td>900</td></tr></table> Coorg.—The present financial situation does not permit the adoption of compulsory inoculation as the cost of inoculation has either to be borne by the cattle owner or by the Government. Neither is in a position to bear this expenditure.	Rinderpest.		Hæmorrhagic Septicæmia.		1930.	1931.	1930.	1931.	1,440	2,193	860	900
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Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER IX.—Diseases of Livestock and their control—<i>contd.</i>	
47. Increased provision of Veterinary Hospitals and Dispensaries (paragraph 248).	Madras.—The veterinary dispensaries are being increased year by year according to the needs of the districts for the purpose of attaining the ultimate aim of having a dispensary for each <i>taluk</i>. But during 1931, the opening of three new veterinary dispensaries and the addition of six new touring posts sanctioned during the early part of the year had subsequently to be given up owing to the financial stringency. The question of closing the existing veterinary dispensaries that are having comparatively small attendance is engaging attention. Bombay.—In the Presidency, the position is the same as that reported last year. No new institutions were opened during the year, but one was closed by the District Local Board, Ahmednagar, in their scheme of retrenchment. Owing to financial stringency more hospitals and dispensaries could not be aided in Sind by Government grants. United Provinces.—Four new dispensaries were opened. Punjab.—There was a net-work of 270 veterinary hospitals in the Punjab in 1929-30. Seventeen new veterinary hospitals were added during 1930-31, making a total of 287. The number is being increased each year as district board funds permit. A closer network of veterinary hospitals is gradually being secured which is increasing the efficiency of the Department for dealing with livestock work including veterinary aid. Burma.—Attention is invited to the remarks in the previous report. Central Provinces.—The number of veterinary dispensaries increased from 99 to 102. N.-W. F. Province.—Ten more dispensaries and 15 more touring dispensaries were instituted. Baluchistan.—No extension has been possible owing to lack of funds.
48. Re-organisation of Provincial Veterinary Departments (paragraphs 249—254).	Madras.—The proposal to appoint deputy directors to assist the Director of Veterinary Services has been deferred for reasons of finance. Consequent on the creation of additional posts during 1930, the number of leave reserve posts has been increased by three from 1st April, 1931, involving an ultimate annual expenditure of Rs. 3,997. Bombay.—The veterinary department has been reorganized. The Superintendent, Civil Veterinary Department, Bombay Presidency (now designated as Director of Veterinary Services, Bombay Presidency), is now placed in charge of the veterinary department in the Presidency proper, the Principal, Bombay Veterinary College, who was so long an independent officer, being brought under the administrative control of the Director. Two posts of veterinary inspectors in the Presidency proper and the post of the chief inspector in the Bombay City and Harbour Veterinary Department were abolished. The post of personal assistant to the Superintendent, Civil Veterinary Department, Bombay Presidency, was converted from a gazetted to a non-gazetted rank. The designations of the Deputy Superintendent, Civil Veterinary Department, Bombay Presidency, and the Deputy Superintendent of the Bombay City and Harbour Veterinary Department were changed into Deputy Director of Veterinary Services, Central Division, and Assistant Government Veterinary Officer, respectively.

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).						
CHAPTER IX.—Diseases of Livestock and their control—<i>contd.</i>							
	After the reorganisation, the gazetted and non-gazetted appointments in the veterinary department are—						
Gazetted	<table><tr><td>2 Indian Veterinary Service Posts.</td><td>Director of Veterinary Services, Bombay Presidency. Superintendent, Civil Veterinary Department, Sind and Rajputana.</td></tr><tr><td>1 Provincial Veterinary Service.</td><td>Class I—Principal, Bombay Veterinary College.</td></tr><tr><td>6 Provincial Veterinary Service.</td><td>Class II—1 Deputy Director of Veterinary Services. 5 posts of Professors.</td></tr></table>	2 Indian Veterinary Service Posts.	Director of Veterinary Services, Bombay Presidency. Superintendent, Civil Veterinary Department, Sind and Rajputana.	1 Provincial Veterinary Service.	Class I—Principal, Bombay Veterinary College.	6 Provincial Veterinary Service.	Class II—1 Deputy Director of Veterinary Services. 5 posts of Professors.
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Non-gazetted	<table><tr><td>13 Veterinary Inspectors.</td><td></td></tr><tr><td>144 Veterinary Assistant Surgeons.</td><td></td></tr></table>	13 Veterinary Inspectors.		144 Veterinary Assistant Surgeons.			
13 Veterinary Inspectors.							
144 Veterinary Assistant Surgeons.							
	United Provinces.—It was not possible to reorganize the Veterinary Department owing to lack of funds. No foreign State scholarships were awarded during the year. The only State scholar who passed out last year was appointed to the Provincial Veterinary Service. Five scholars were sent to the Bengal Veterinary College for training as veterinary assistant surgeons. Punjab.—Attention is invited to the remarks in the previous reports. Central Provinces.—Revised scales of pay for the Central Provinces Veterinary Service, class I and II and the Subordinate Veterinary Service were sanctioned for new entrants and have taken effect from the 10th December, 1931. The local Government have decided that the posts of veterinary inspectors should be abolished as the present incumbents retire. The number of deputy superintendents (district veterinary surgeons) has been reduced from 7 to 5 as a measure of retrenchment. N.-W. F. Province.—A post of deputy superintendent was added to the cadre and filled by promotion of an existing subordinate. Baluchistan.—Lack of funds again prevented any reorganization of the veterinary department.						
49. Separation of Agricultural and Veterinary Departments in the Punjab (paragraph 251).	Punjab.—Effect has already been given to this recommendation, as stated in the first report.						
50. Training of Veterinary Surgeons and Veterinary Assistant Surgeons (paragraphs 255—258).	Madras.—Attention is invited to the remarks in the previous reports. In view of the present financial stringency, the local Government have abolished stipends and fees will in future be levied at the veterinary college. Bombay.—The recommendations of the Royal Commission have been accepted in principle and the proposals from the Imperial Council of Agricultural Research as to a suitable curriculum for the training of veterinary assistant surgeons were awaited. United Provinces.— <i>Vide</i> remarks against item 48. Punjab.—The training of veterinary assistant surgeons is conducted at the Lahore Veterinary College, where a four years' course of study is provided. Burma.—These recommendations are still under the consideration of the local Government.						

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER IX.—Diseases of Livestock and their control—<i>concl.</i>	Bihar and Orissa.—The proposal for starting a post-graduate class at the Bihar and Orissa Veterinary College for the subordinate veterinary officers already in Government service in this and other Provinces is still under consideration. Central Provinces.—No new scholarships were awarded during the year. North-West Frontier Province.—Eight stipendiary students from this Province were undergoing the veterinary assistant surgeons' course at the Punjab Veterinary College, Lahore. Madras.—The extension of the Madras Veterinary College laboratory is in progress and a portion has been completed and occupied during the year. A special rinderpest officer, has been appointed temporarily for two years with effect from 13th July, 1931. The following items of research work and experiments were undertaken during the year:— - Experiments on the feasibility of producing potent serum were conducted successfully during the year as a preliminary to the opening of a Serum Institute. 27,800 doses of anti-rinderpest serum were prepared and issued after laboratory test for use in the field. The results of the use of this serum have been satisfactory. - The study of different strains of <i>Trypanosomes</i> was continued and certain experiments in <i>Piroplasmiasis</i> were conducted during the year. - A study of the seasonal incidence of <i>Cercaria</i> in fresh water molluscs has been undertaken and is nearing completion. A trematode of the <i>Emparyphium</i> genus was recorded for the first time in a stray dog and the life history of this has been completed. - A survey of ticks of domestic animals is in progress. - A further study on fowl-pests was undertaken and certain transmission experiments were conducted. United Provinces.—In collaboration with the helminthologist attached to the Imperial Institute of Veterinary Research, Muktesar, research was conducted in the treatment of liver flukes in cattle by the administration of a drug called <i>danistol</i>. Definite results are not yet available. A scheme for the appointment of a special investigation officer for the United Provinces for a period of five years has been submitted to the Imperial Council of Agricultural Research for consideration. Punjab.—Work of an original character continued to be carried out at the Punjab Veterinary College, Lahore. Bihar and Orissa.—In addition to his teaching work, the Research Officer undertook researches on <i>Nasal granuloma</i>, <i>coccidiosis</i>, <i>Bursattis</i> and <i>Kumri</i>, Anthrax, John's Disease, Bovine abortion and <i>Otorrhoea</i>. Bombay.—The matter is still under consideration. United Provinces.—The project for the Kaprar weir in the Jhansi district is still under consideration. Recent investigations have revealed the existence of a more appropriate site for the weir which is about twelve miles above the site originally selected. A weir at the new site
51. Research work in Provincial Veterinary Colleges (paragraph 261).	
CHAPTER X.—Irrigation.	
52. Review of position in regard to outstanding Irrigation Projects (paragraph 275).	

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER X.—Irrigation—<i>contd.</i>	will cost approximately rupees three lakhs less than one at the site originally selected. At both sites, however, most of the area submerged in the reservoir lies in the Orchha State, the Diwan of which has intimated that the State itself intends to build a weir in the Jumni river, and has asked the irrigation department to keep their project in abeyance. The feasibility of a joint project is being considered. If this proves impracticable, it will be seen if the State will consent to the irrigation department building the weir and irrigating the area which might be commanded in the State. The project for the Bewar branch extension has been shelved as a result of the decision of a conference of superintending engineers, where it was unanimously accepted that there was not sufficient water for such extensions. The Anti minor extension has been completed. Consideration of the project for a canal scheme from the Gangan river in the Moradabad district has, with the consent of the Rampur State, been postponed for a year on account of the present financial stringency. The project for canals from the Aril river in the Bareilly district has been dropped. It was not likely to be remunerative as the cultivators were not willing to pay water rates that would make even the cheapest possible system of <i>bunds</i> and watercourses pay its way. The position regarding the proposed formation of a project circle to investigate possible canal schemes is unchanged. Bihar and Orissa.—The practice of reviewing the projects at suitable intervals continues to be observed. Central Provinces.—The action taken on this recommendation has already been mentioned in the first report. North-West Frontier Province.—Owing to financial stringency, the only project at present being marked out is that of a perennial Paharpur Canal. Ambitious schemes for dealing with the hill torrents in the Dera Ismail Khan district have been found to be financially impossible and the policy of the Administration is to divide and sub-divide the torrents into many channels, a policy which permits of expenditure being incurred gradually and which has much the same effect in the end as check dams. Baluchistan.—The position is the same as that reported last year. Bombay.—This recommendation as well as the one regarding non-reduction in the capacity of an outlet if irrigation is done over a larger area than that for which the outlet was designed, is still under consideration. United Provinces.—Experiments in the sale of water by volume are being made on six Government tube-wells in the hydro-electric grid area by two different methods, <i>viz.</i>— - charging per acre watering; - charging for electric units consumed. Bihar and Orissa.—Some progress has been made as regards extension of long term leased area on the Sone and Champaran canals only. Central Provinces.—Attention is invited to the remarks in the previous report. Baluchistan.—Attention is invited to the remarks in the previous report.
53. Investigation and experiment on Sale of Water by volume (paragraph 277).	

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER X.—Irrigation— contd.	
54. Formation of Irrigation <i>Panchayats</i> (paragraph 278).	Bombay.—The matter is still under consideration. United Provinces.—The action taken on this recommendation was mentioned in last year's report. Canal officers have been asked to report on the working of the system by the end of March, 1932. Central Provinces.—The Central Provinces Irrigation Act will shortly come into force. The rules framed under that Act confer certain powers on irrigation <i>panchayats</i>, which will, if properly used, make them an important factor in the efficient management of revenue matters and in the prevention of damage to irrigation works. Baluchistan.—Attention is invited to the remark in the previous report. Delhi.—The question was considered by the Canal Advisory Committee, which was of opinion that formation of such bodies would be of no use unless the <i>panchayats</i> were given judicial powers. Bombay.—Owing to the paucity of funds and the necessity for retrenchment of expenditure, the appointment of the Superintending Engineer, Minor Irrigation Works, was abolished with effect from 1st April, 1930. A small establishment was retained thereafter for completing the survey of works already undertaken but even that had to be disbanded from 1st March, 1931. United Provinces.—Owing to financial difficulties the local Government have been able only to construct a few tube-wells with electrically driven pumps to irrigate about 4,000 acres of land in the Moradabad district and to supply electric power for about 30 pumps for private gardens providing irrigation for an additional 3,000 acres approximately. Bihar and Orissa.—It has been decided to introduce legislation and good progress has been made in drafting the necessary Bill. Central Provinces.—Attention is invited to the remark in the previous report. Baluchistan.—Attention is invited to the remarks in the previous report.
55. Establishment of a special agency for Minor Irrigation Works (paragraph 279).	
56. Pumping and Boring Operations and Tube Wells (paragraph 280).	Madras.—The pumping and boring operations are controlled by the engineering section of the Department of Industries. The general reduction of fees for work done by this section, the option granted to the hirers to transport the machinery themselves and the total remission of fees in the case of unsuccessful borings have all contributed to an increased demand for the facilities afforded by this section. 500 borings were put down by the engineering branch of which 494 are sub-artesian and 6 artesian springs. Of the artesian borings tapped during the year, mention may be made of one at Valayamadevi, Chidambaram taluk, South Arcot district, believed to be the most powerful artesian spring yet tapped in India. This borehole yielded a spontaneous and continuous flow of 1,000 gallons per minute, 3 feet above ground level. Several borings were put down in the Kurnool district, the water from which has been used for drinking purposes by the people living in the vicinity, who have been able to obtain relief from the ravages of the guinea-worm disease so prevalent in those parts. A few of the bore holes put down in the Bellary <i>firka</i> were utilized as sources of drinking water. The results of borings conducted in the year 1928-29 were published during the year. The compilation of those of 1929-30 are approaching completion.

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER X.—Irrigation— contd.	
57. Ordinary Wells (paragraph 281).	Bombay.—Owing to financial stringency, the boring activities were suspended as one of the items of retrenchment, and it is proposed to continue this work only in the precarious tracts of the Deccan. No action on the lines of the recommendation can, therefore, be taken at present. The demand for assistance in connection with pumping is increasing and it is being given. United Provinces.—The subsidy system of tube-well construction by the agricultural engineering section of the agricultural department is still in force, and <i>zamindars</i> are required, in return for the services of officers of the department, to produce and sell improved seed to the department. Thirty-four large and 95 small tube-wells were completed, while the total number of projects completed and in hand is 314. The construction of tube-wells by private agencies has made no progress. There has been no change in the procedure for the construction of tube-wells and installation of power pumping plant. The cheapness of the power available in the hydro-electric <i>grid</i> area has led to the construction of several tube-wells with electric pumping plant, and a number of similar projects are in hand. The number of tube-wells of large and small bore completed during the year showed a marked increase as compared with the number completed last year, but the total number of ordinary borings carried out decreased by over a hundred to 1,402. Punjab.—The action taken on this recommendation has already been mentioned in the previous reports. Bihar and Orissa.—Attention is invited to the remarks in the previous report. Baluchistan.—As already stated in the previous report, a large proportion of irrigation in Baluchistan is from <i>Karez</i>s. The experimental pumping of water at the heads of <i>Karez</i>s has proved definitely un-economical. <i>Karez</i> irrigation is not only expensive and difficult but results in a constant lowering of the sub-soil level, with consequent loss of command of the cultivated areas. The installation of a large pumping set at Malezai, for pumping water for irrigation from the Pishin Lora perennial supply, will be completed by the end of March, 1932, and a report on this scheme will be submitted after a full year's working. Delhi.—Boring operation movement in irrigation wells is getting popular. During the year under report 15 wells were bored. United Provinces.—Boring was carried out in 1,500 wells of which 1,170 were successful. 270 new masonry wells were constructed by members of co-operative societies during the year and ten irrigation societies were registered. Punjab.—The action taken on this recommendation has already been mentioned in the first report. Bihar and Orissa.—Attention is invited to the remarks in the first report. Central Provinces.—Attention is invited to the remark in the first report. Baluchistan.—The results of the experiments referred to in item 56 above indicate the advisability of resorting to Persian wheel irrigation, where the sub-soil level is within about 15 feet of the surface. This type of irrigation will be introduced, when funds are available. Delhi.—In spite of general depression the work of construction of irrigation wells is progressing satisfactorily and 104 new wells have been constructed during the year either with the help of <i>faccavi</i> grants or by private enterprise.
* NOTE.— <i>Kareze</i> is a system of irrigation used where sharp slopes make it possible to bring sub-soil water to the surface by horizontal shafts.	

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER X.—Irrigation—<i>contd.</i> 58. Establishment of close relations between Agricultural and Irrigation Departments (paragraph 283).	Madras.—Attention is invited to the remarks in the previous report. Bombay.—The agricultural department in the Presidency is co-operating with the irrigation department in the conduct of short courses in agriculture held by that department. In Sind, the closest relations exist between these two Departments. During the past year, a Sind Research Committee has been formed of which the Chief Engineer in Sind and the Chief Agricultural Officer in Sind and other senior members of the agricultural and irrigation departments are members. This committee co-ordinates the research activities of both departments, allots different items of research to the organizations most fitted to deal with them and considers the results obtained and the best means of utilising them for the benefit of the cultivators. In addition, the Chief Agricultural Officer in Sind is a member of the Lloyd Barrage Standing Committee and his headquarters are in Karachi where he is in intimate touch with the senior officers of the irrigation department. Proposals for the institution of brief courses of instruction in the work of the agricultural department, crop valuations, etc., for officers of the revenue and irrigation departments at the agricultural research station, Sakrand, are under consideration. United Provinces.—As a measure of economy no officers of the irrigation department were sent to the Government farm at Shahjahanpur to study sowing operations. The research officer, irrigation department, who is also professor of irrigation engineering at the Thomason Civil Engineering College, Roorkee delivered a course of six lectures to the students of the agricultural college Cawnpore, and also visited the agricultural engineering section's work shops. The procedure adopted last year for the distribution of improved seed was continued and the results have been on the whole satisfactory. The irrigation department officer who was acting as agricultural engineer reverted to the irrigation department during the year. Punjab.—The action taken on this recommendation has already been mentioned in the previous reports. Central Provinces.—The action taken on this recommendation has already been mentioned in the report for 1930. [The word "not" in the 7th line against item 58, Central Provinces on page 57 of the previous report (1930) should be "most".] Baluchistan.—Attention is invited to the remarks in the previous report.
59. Establishment of Irrigation Advisory Committees (paragraph 284).	Madras.—It has since been decided not to include the Registrar, Co-operative Societies, as a member of the Irrigation Development Board referred to in the previous report. Bombay.—It has been decided to establish an Advisory Committee for the Deccan to deal with irrigation questions on the lines recommended by the Royal Commission and that its functions should be strictly advisory. Government have set up two committees, one a standing committee consisting of official and non-official gentlemen and the other an advisory committee consisting of non-official gentlemen, to assist them in the prosecution of the Lloyd Barrage and Canals Construction Scheme. The Standing Committee has been constituted with the object that any major proposals affecting the project or requiring the orders of Government may reach them in a form giving the considered opinions of all the local heads of the responsible departments. The functions of the Advisory Committee are to advise Government generally on all matters connected with the Barrage project and to offer advice on any matter referred to it by Government or the Standing Committee.

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER X.—Irrigation—<i>contd.</i>	United Provinces.—Orders were issued for the constitution of Canal Advisory Committees in four selected canal divisions. Rules have been framed regarding the constitution, functions and procedure of these committees and reports on their working are awaited. Punjab.—The action taken on this recommendation has already been mentioned in the first report. Bihar and Orissa.—The Advisory Committee for the South-East Sone Circle, referred to in the previous report, did not prove useful during the four years of its appointment on an experimental basis and has accordingly been abolished. Central Provinces.—Attention is invited to the remarks in the previous report. Baluchistan.—This matter has received the attention of the local Administration. Delhi.—A canal Advisory Committee exists in the Delhi Division, Western Jumna Canal, and meetings are held regularly 3 or 4 times a year. There is another such committee on the Eastern Jumna Canal also. On both committees this Province is represented.
60. Research on Irrigation problems (paragraph 287).	Madras.—The question of the study of water requirements of crops on the various existing research stations in the Presidency in collaboration with the Public Works Department (Irrigation) is under consideration. Bombay.—The recommendation that more attention should be paid to research on irrigation problems has already been adopted. In addition to the great irrigation research work being done by the Special Irrigation Division and the Irrigation Development and Research Circle in the Deccan, a Research Division has been opened in Sind for carrying out research work in connection with the Lloyd Barrage project. The agricultural department in Sind is co-operating fully with the irrigation department in research work on the irrigation problems arising from the establishment of perennial irrigation under the Lloyd Barrage and Canal systems. The recommendation regarding (a) enlisting the assistance of the Indian Universities in irrigation research, and (b) periodical review of the work of the provincial Irrigation Research Station, are still under consideration. United Provinces.—The Professor of Civil Engineering at the Thomason Civil Engineering College, Roorkee, continued to perform the duties of Irrigation Research Officer in addition to his normal work and was given an additional assistant for a part of the year. Research on the precise measurement of discharges by means of flumes was continued. The standing wave flumes on the Tansipur distributary and on the left main distributary were calibrated by means of a very precise current metre and rod discharge observations, and as a result of a large number of experiments, the utility of this type of flume as discharge meter for ordinary regulation purposes was effectively demonstrated. An important feature of these meters is the very small loss of head which their construction entails on existing channels. The loss at full supply in a well designed meter does not exceed four inches. In order that continuous observations of discharges could be measured on a distributary and the channel losses determined, two flumes were constructed five miles apart on the left Mohammadpur distributary. As a result of these experiments and on the basis of a note on the subject by the research officer, standing wave flumes are not designed as a matter of routine in canal divisions. The research section undertakes the work of checking the calculations and the design of any flume that may be sent for scrutiny.

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER X.—Irrigation—contd.	Investigation into the flow of water in open channels was continued and provisional diagrams of régime channel dimensions and slopes were printed and issued for use in the department. The diagrams were based on the research officer's paper "Stable Channels in Alluvium" which received in the Punjab the award of the Kenny Memorial Gold Medal (1930) for the best published paper on research in irrigation science. The research officer visited the Punjab Engineering Congress and took the opportunity of discussing research problems with Dr. McKenzie Taylor, Scientific Research Officer, Lahore, and with Mr. C. C. Inglis, of the Irrigation Development and Research Circle, Poona. Work for the ensuing year was co-ordinated to avoid overlapping. The newly completed Sarda canal presents a great variety of problems that require solution, and an agreed plan of experiments was accordingly undertaken extending over a period of several months. On a careful regulation of the flow of water in the Sarda canal, very heavy channel losses were detected. This is usual with all new canals. It was accordingly decided to conduct the measurement of discharges on the Sarda main canal system and branches, and the calibration of all the falls, of which there are a large number. The experiment which is now in hand will, when completed, be of great practical value, since the canal falls will be used in future as meters, and the efficient regulation of the canal should ensue as a matter of course. Punjab.—The action taken on this recommendation has already been mentioned in the previous reports. Bihar and Orissa.—Attention is invited to the remarks in the first report. Central Provinces.—Attention is invited to the remarks in the first report. Baluchistan.—As stated in the previous report, the local Administration has had no opportunity of carrying out any research works. Madras.—Attention is invited to the remarks in the previous report. Bombay.—The matter is still under consideration. This work is being undertaken by the Research Division of the Irrigation Department in so far as the Barrage areas of Sind are concerned. Bombay.—Attention is invited to the remarks in the previous report. Bengal.—Attention is invited to the remarks in the previous report. Madras.—During the year, considerable progress was made in the execution of the Pykara project and power is expected to be supplied in the Coimbatore district by the end of 1932. The local Government have also sanctioned a scheme for the distribution of power in rural areas. To facilitate installation of pumping sets on agricultural lands they have also decided to supply electric appliances on a hire purchase system to such agriculturists in the district as are unable to purchase them outright and have issued necessary rules for the purpose.
61. Preparation of Drainage Maps (paragraph 289).	
62. Irrigation in Sind (paragraphs 290-291).	
63. Irrigation in Bengal (paragraph 292).	
64. Hydro-electric development (paragraph 295).	

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER X.—Irrigation—concl.	Bombay.—The local Government consider that no action is called for at present. United Provinces.—In addition to the towns already electrified, energy was made available to six more towns, with populations ranging from five to seven thousand. All the towns to be electrified in accordance with the agreements with the various distributing licensees have now been supplied with energy. In addition to these towns, bulk supply to Aligarh was undertaken and the town is now supplied with power from the grid. Arrangements for the supply of power to Shahdara were also completed. The 1600 H. P. (1200 K. W.) power station at Sumera was completed, tested and brought into operation. About 882 miles of high tension lines and 98 transformer stations are now in operation, and, in addition, about 34 miles of rural branch lines to twenty consumers were completed and about 29 miles of lines to fifteen consumers were energized. Negotiations for the supply of power to the Muslim University, Aligarh, and to the Meerut Cantonment were completed and the construction of lines and sub-stations was taken in hand. The Ramganga and Kali Nadi pumping schemes continued to work satisfactorily. 12,656 cusec days having been pumped at the former and utilized on the Ramganga canals and 2,688 cusec days on the latter for increasing the supply of the Ganges Canal system. All construction on the present stage of the grid scheme was completed and revenue accounts were opened from September 1, 1931. Revenue continued to increase at a satisfactory rate. The State pumping scheme in the Moradabad district was commenced and one tube-well giving two cusecs and two giving one cusec each were brought into operation in addition to two large tube-wells on the agricultural canal together discharging about seven cusecs. Good progress was made in reducing the trips on the 11,000 volt branch lines in the north area by changing the cross arms from steel to wood and using insulators with long pins. Many transformers were replaced by others of a higher capacity as the load increased. Demonstrations in the use of electricity were given and a small 4 H. P. motor suitable for driving different kinds of machine was sent to fairs and centres of trade round the grid area. Publicity was also undertaken by means of pamphlets. A sliding scale to encourage the sale of industrial units was introduced giving cheaper power to more constant consumers. The electrification of agricultural farms in the hydro-electric grid area could not be proceeded with owing to lack of funds. About a dozen tube-wells have been constructed and supplied with electric motors and direct coupled pumps and several similar projects are in hand in the grid area. Bihar and Orissa.—Attention is invited to the remarks in the first report. Central Provinces.—Attention is invited to the remarks in the first report. N.-W. F. Province.—A scheme has been submitted to the Government of India for pumping 10 cusecs from the Kabul River Canal hydro-electrically. Bombay.—Attention is invited to the remark in the previous report. United Provinces.—The Board of Communications, referred to in the previous reports, had to be dissolved owing to financial stringency.
CHAPTER XI.—Communications and Marketing.	
65. Constitution of Road Boards (paragraph 305).	

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER XI.—Communications and Marketing—contd.	
	Bihar and Orissa.—Attention is invited to the remarks in the previous report. Central Provinces.—Attention is invited to the remark in the first report. Assam.—Attention is invited to the remarks in the previous report. Baluchistan.—Attention is invited to the remarks in the previous report.
66. Development of Subsidiary Communications (paragraphs 305—307).	Bombay.—In view of the present financial stringency it is hardly possible to finance communication works from General Revenues. Now that the petrol tax fund has become available for 5 years for the present (1930-31 to 1934-35) only works of Class I and Class II importance are being financed from that source, as the proceeds from this tax are meant only for these types of roads, and it is not therefore possible to allot funds from this source as also from provincial revenues so far as village roads are concerned. The question of constructing roads necessitated by the construction of the Barrage and the Deccan Canals is under consideration. So far as the Deccan Canals are concerned, a scheme for improvements to tracks in the Nira Left Bank Canal area which involved an expenditure of about Rs. 26 lakhs was received. So far as proposals for improvements to main roads estimated to cost Rs. 5,30,000 in that scheme were concerned, it has been decided to include them in the priority list of works with a view to finance them from the petrol tax funds. No funds can be spared for the remaining works from the Petrol Tax Fund from the General Revenues in view of the financial stringency. Proposals for improvements to tracks in the Nira Right Bank Canal tract have been received and are under consideration. The attention of the officers concerned and also of all local authorities has been invited to the concessions allowed by the railway authorities for the building of road bridges alongside the railway bridges, details of which are given in Chapter IV of the Rules for the preparation of Railway projects. The officers concerned have been requested to bear in mind the Commission's recommendation that the policy to be adopted should be that railways and roads should be regarded as complementary each to the other and not as competitive, in connection with any road or railway projects that may be formulated in future. There is now a representative of the agricultural department on the Local Advisory Committee of (1) the Great Indian Peninsula Railway, (2) the Madras and Southern Mahratta Railway, and (3) the North-Western Railway. Bengal.—The reconstruction of some of the roads included in the five-year programme is in progress. United Provinces.—There has been no further progress. Bihar and Orissa.—The importance of developing subsidiary communications in the province is fully borne in mind and grants for this purpose are being distributed to local bodies by the local Government, acting under the advice of the Road Board, out of the proceeds of the provincial tax levied on motor vehicles. Central Provinces.—Attention is invited to the remarks in the first report.

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER XI.—Communications and Marketing—contd.	
	Assam.—During the year 1931-32, Government contributed Rs. 3,72,639 towards the improvement of communications in areas under the local boards. Owing to the bad condition of the provincial finances Government could not provide the boards during the year with any funds for the specific purpose of improving village roads. In the year 1930-31, the boards however spent from their resources, including former grants, a sum of Rs. 1,63,133 upon the construction and maintenance of village roads. Baluchistan.—Efforts are being concentrated on improving the main arteries and very considerable progress has been made, particularly in the case of the circular road Loralai—Rakhni (the Dera Ghazi Khan road)—Barkhan—Lassazai—Hosri—Gumbaz—Duki—Loralai. The completion of these roads has opened up communication with a number of important villages. The further development of branch roads is being explored. Madras.—The criticisms and opinions of growers, traders, etc., on the draft Bill for the establishment of regulated markets, referred to in the previous report, were under examination. Bombay.—In the Presidency, a regulated cotton market has now been established at Dhulia and efforts are being made to start a few more in other suitable centres. In Sind, no regulated markets have yet been established. The matter is, however, receiving the attention of the Sind Cotton Committee, of which the Chief Agricultural Officer in Sind is chairman. United Provinces.—No action has been taken. Burma.—It has not been possible to carry out this investigation owing to the fact that the localities selected were in a state of unrest and that the staff of the department was depleted through their being taken away for military duties. The question will receive further consideration when conditions in the Thavetmyo and other districts in the West Central Circle have become normal. Bihar and Orissa.—Attention is invited to the remarks in the first report. Central Provinces.—The Berar Cotton Market Rules were revised and brought into force from January, 1931. Under the revised rules the growers will have a representation on the cotton market committees for the first time. A private bill to provide for the establishment and better regulations of cotton markets in the Central Provinces on the lines of the Berar rules was received for introduction in the Legislative Council. Model byelaws have been framed under the Central Provinces Municipalities Act, 1922, for prescribing the standard weights and measures to be used and preventing the use of false or defective weights and measures within the limits of the municipality and have been commended for the consideration of the municipal committees. Madras.—Much progress has been made in regard to the distribution of improved qualities of cotton seeds through the efforts of the deputy director of agriculture deputed to work under the Registrar of Co-operative Societies. The agricultural demonstrator working in the Avanashi area continued his activities of supervising the cultivation of improved strains of cotton. Another demonstrator was deputed by the agricultural department to assist the Koilpatti Cotton Sale Co-operative Society for a period of 12 months. In all the principal cotton areas, ryots were induced to purchase and cultivate improved qualities of cotton.
67. Establishment of Regulated Markets (paragraphs 29—338).	
68. Efforts to secure improved quality from producers with special reference to encouragement of Co-operative Sale Societies (paragraphs 340—342).	

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER XI.—Communications and Marketing—<i>concl.</i>	seed, and it is estimated that about 10,000 acres have been so cultivated. Finance has been arranged through the local co-operative societies and about a lakh of rupees has been lent to the ryots on condition that they should sell their produce through the sale societies. Bombay.—In the Presidency, the agricultural department is rendering all possible help to the co-operative cotton sale societies in the sale of their produce as well as in grading cotton. Necessary help is also rendered to sale societies dealing with other produce, <i>e.g.</i>, <i>gul</i>, mango, etc. In Sind, the agricultural department is utilising co-operative grain sale societies for the extension and distribution of cereal crops. The formation of similar organizations to deal with cotton and other major crops is under consideration. United Provinces.—Two cotton production and sale societies were started with the object of enabling cultivators of C-402 cotton to combine and get a better sale price by the joint sale of their produce. One of them made a profit of over Rs. 5,000 by the sale of more than 1,000 maunds of this cotton in one lot to a Lucknow mill. The other society was, however, not so successful and made only a nominal profit. Punjab.—Co-operative commission shops are in existence and their number is gradually increasing, but low prices have more than counter-balanced an increase in the amount of produce handled. Bihar and Orissa.—It is not considered desirable to start co-operative sale societies at present, because all experiments in this line have so far ended in failure owing to lack of training of members and want of funds for the requisite supervising staff. Central Provinces.—Five more agricultural associations have been registered during the year. Their number has increased from 25 to 30. Delhi.—At this stage of the co-operative movement the co-operative department is unable to attend to the development of co-operative sale societies. Madras.—Attention is invited to the remarks in the previous report. Bombay.—In the Presidency, the agricultural department is endeavouring to secure an adequate premium for superior varieties of cottons introduced in the several cotton tracts. Auction sales are being arranged through cotton sale societies where graded cotton is sold in different lots. In Sind, this recommendation will receive consideration when the production of improved varieties of crops under the Lloyd Barrage and Canal System necessitates such action being taken to stimulate further extension. Punjab.—As stated in the previous report such sales are restricted to one circle and are confined to cotton. Central Provinces.—Attention is invited to the remarks in the first report. Madras.—The scheme for the establishment of a fruit research station, submitted to the Imperial Council of Agricultural Research, is still pending. Bombay.—Attention is invited to the remarks in the previous report.
69. Auction Sales by Agricultural Departments (paragraph 343).	
70. Experiments with Containers (paragraph 345).	

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER XI.—Communications and Marketing—<i>concl.</i>	
71. Market Surveys (paragraph 347).	Madras.—Owing to financial conditions, it was decided that the deputy director of agriculture, whose deputation to the co-operative department for the study of cotton markets was referred to in the previous report, should be withdrawn from the 1st April, 1932. Bombay.—To formulate a policy for the improvement of marketing and to undertake a survey on the lines laid down in paragraph 347 of the Report are considered two of the most important problems to be tackled by the agricultural department. The first step in this direction is the appointment of an expert marketing officer on the staff of the agricultural department. Proposals to this effect were submitted to Government in April, 1929, but owing to financial stringency no action has been possible. Several surveys connected with the marketing of cotton up-country have been carried out with the aid of funds provided by the Indian Central Cotton Committee. The Gokhale Institute of Politics and Economics, Poona, has undertaken the study of marketing vegetables and fruits in the Poona district. The Professor of Agricultural Economics at the Poona Agricultural College is one of the members of the advisory body and co-operates with the Institute in carrying out the market surveys. No action has been taken in Sind beyond the inquiry into the finance and marketing of the cotton crop financed by the Indian Central Cotton Committee. Punjab.—The action taken on this recommendation has already been mentioned in the first report. Burma.—It has not been found possible to carry out surveys on the elaborate lines suggested by the Royal Commission but several crop surveys have been conducted during the year in which marketing conditions have been attended to. The surveys completed included one on potatoes in the Shan States, one each on sesamum, tobacco and beans in Upper Burma and one on the fruit and vegetable supply of the Scott Market, Rangoon, which has not yet been completed. Bihar and Orissa.—Attention is invited to the remarks in the first report. Bombay.—The appointment of a marketing officer could not be proceeded with owing to financial stringency, but the Horticulturist to Government, has taken full advantage of the scholarship awarded to him by the Empire Marketing Board to study the marketing of fruits and vegetables in the western markets, particularly in London and Paris, and he hopes to be able to assist in bringing about reforms in the marketing of such produce in Bombay by co-operating with the Municipal Commissioner for the City of Bombay. United Provinces.—Lack of funds again prevented the appointment of a marketing officer. Punjab.—No marketing officer has yet been appointed. Burma.—Owing to financial stringency it has not been possible to give further consideration to this recommendation. Central Provinces.—The post of the deputy director of agriculture for economics and Marketing, referred to in the first report, is under retrenchment. Madras.—Attention is invited to the remarks in the previous report. Bihar and Orissa.—Attention is invited to the remarks in the previous report.
CHAPTER XII.—The Finance of Agriculture.	
72. Appointment of expert Marketing Officers (paragraph 348).	
73. Limitation on period of usufructuary Mortgages (paragraph 353).	

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER XII.—The Finance of Agriculture—contd.	
74. Removal of restriction on operation of Punjab Redemption of Mortgages Act (paragraph 354). (<i>Special to the Punjab</i>).	Delhi. —The Alienation of Land Act provides a limitation of 20 years on the period of usufructuary mortgages by <i>bona fide</i> agriculturists to non-agriculturists.
75. Enactment of Legislation in regard to redemption of Mortgages in provinces other than the Punjab (paragraph 354).	Punjab. —No remarks have been received from the local Government.
76. Desirability of extension of Principle of Statutory Restriction on Alienation of Land (paragraph 355).	Madras. —Attention is invited to the remarks in the previous report.
	Bihar and Orissa. —Attention is invited to the remarks in the previous report.
	United Provinces. —The recent settlement in the Agra district has shown that numerous petty proprietors in some tracts are heavily indebted and depressed as a result of the adverse economic stress prevailing in recent years. Government have therefore decided, with the previous sanction of the Governor-General under sub-section 3 of section 80-A of the Government of India Act, to introduce in the Provincial Legislative Council two Bills to amend the Bundelkhand Alienation of Land Act (II of 1903) and the Bundelkhand Encumbered Estates Act (I of 1903) with a view to extending their application to these tracts. The question whether these Acts should be further extended is being considered by a committee appointed to deal with rural indebtedness.
	Bihar and Orissa. —Attention is invited to the remarks in the first report.
	Central Provinces. —Attention is invited to the remarks in the previous report.
77. Enquiry into Expropriation of Hereditary Class (paragraph 355).	United Provinces. — <i>Vide</i> remarks against item 76.
	Bihar and Orissa. —Attention is invited to the remarks in the previous report.
	Central Provinces. —The action taken has been mentioned in the previous report.
78. Removal of difficulties in the way of Landlords investing Capital in their Lands (paragraph 358).	Madras. —The Estates Land Act Amendment Bill, referred to in the previous report, was introduced in the Legislative Council and referred to a Select Committee.
	United Provinces. —There are no particular difficulties at present.
	Bihar and Orissa. —Attention is invited to the remarks in the first report.
	Central Provinces. —Attention is invited to the remarks in the previous report.
79. Working of Land Improvement Loans Act and Agriculturists' Loans Act (paragraphs 359 and 362).	Madras. —Eight loans to the value of Rs. 25,150 were sanctioned during the year to ryots under the Agriculturists Loans Act for the installation of pumping plants. In these cases there were found to be reasonable prospects of increased cultivation and a return on the capital expenditure incurred.

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER XII.—The Finance of Agriculture—contd.	
	Bombay. —(a) Action has been taken to give effect to the recommendation that part of the allotment under the Land Improvement Loans Act should be placed at the disposal of the land mortgage banks.
	(b) The same concessions which are extended to cultivators who are granted loans direct by Government are extended to co-operative societies and their members. Thus in the case of loans advanced by co-operative societies and banks in flooded areas, Government made grants for loss of interest to these bodies, in view of the fact that loans granted to agriculturists direct were free of interest for one year.
	Bengal. —As loans under the Agriculturists Loans Act are not granted through co-operative societies in this province, the question of granting remission, suspension, etc., to members of co-operative societies does not arise.
	United Provinces. —Advances under the Agriculturists Loans Act during 1930-31 for the construction of tube-wells amounted to about three-quarters of a lakh of rupees.
	Burma. —The formulation of proposals for making landholders better acquainted with the facilities afforded by the Land Improvement Loans Act, 1883, is pending further enquiries which are being made by the Financial Commissioner (Transferred Subjects) in the manner reported in the previous report. Commissioners of Divisions were consulted on a proposal for utilising the provisions of section 27 of the Burma Rural Self-Government Act, 1921, but it had to be dropped as it did not receive sufficient support. Commissioners were also consulted on a proposal to amend the Burma Canal Act, 1905, in order to enable contributions to be made to funds for the repairs and maintenance of village canals and drainage works, but no conclusion has yet been arrived at in the matter.
	Bihar and Orissa. —Attention is invited to the remarks in the first report.
	Central Provinces. —The present working of the Acts is satisfactory. The rules are being examined in the light of the recommendations made by the Central Banking Enquiry Committee.
	N.-W. F. Province. —The amount distributed during the year under the Land Improvement Loans Act, XIX of 1883, was Rs. 21,461 and under the Agriculturists Loans Act, XII of 1884, Rs. 25,950. The proportions vary very considerably. Thus the deputy commissioner, Kohat, distributed Rs. 11,950 under Act XII as against Rs. 6,250 under Act XIX, while deputy commissioner, Peshawar, distributed Rs. 3,411 under Act XIX and nothing under Act XII. Views as to the usefulness or otherwise of these Acts vary very considerably as the returns of individual deputy commissioners show. In some cases there is no doubt that these loans are the subject of considerable abuse. Agriculturists generally are fully alive to the possibilities. The suggestion made in paragraph 359 of the Report that part of the allotment under the Land Improvement Loans Act should be placed at the disposal of Land Mortgage Banks has not yet been seriously considered; but the time for such consideration should arrive here long with the expansion of the co-operative movement.
	Baluchistan. —As stated in the previous report, the present working of the two Acts is satisfactory.
	Delhi. —The Acts are in force. During the year under report Rs. 23,350 were advanced under Land Improvement Loans Act, XIX of 1883, for the construction and repairs of wells.
	No loans were advanced under Agriculturists' Loans Act, XII of 1884.

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER XII.—The Finance of Agriculture—contd.	
	Coorg.—Loans aggregating Rs. 22,120 under the Land Improvement Loans Act and Rs. 15,490 under the Agriculturists' Loans Act were granted and were properly utilised. The recoveries of loans granted in past years are as follows:— Rs. 16,902-15-0 under Land Improvement Loans Act; and „ 12,904-3-2 under Agriculturists' Loans Act. The amount pending recovery being— Rs. 1,27,231-9-8 under Land Improvement Loans Act; and „ 84,509-6-5 under Agriculturists' Loans Act. Madras.—The recommendations of the Indian Central Banking Enquiry Committee on this subject, referred to in the previous report, were received and were under consideration. Bombay.—Attention is invited to the remarks in the previous report. No action on this recommendation is proposed by the local Government. United Provinces.—A committee has been appointed to look into the question of agricultural debts and suggest suitable remedies. Bihar and Orissa.—Attention is invited to the remarks in the previous report. Central Provinces.—Attention is invited to the remarks in the previous report. Madras.—The recommendations of the Indian Central Banking Enquiry Committee on this subject, referred to in the previous report, were received and were under consideration. Bombay.—The introduction of legislation on the lines of the Punjab Regulation of Accounts Act has been postponed till some experience has been gained of the working of the Act in the Punjab. The question whether any action should be taken by Government to combat the Pathan money-lenders' menace has been considered by Government and a circular has been issued to all district magistrates containing instructions for preventing oppression by Pathan money-lenders. United Provinces.—<i>Vide</i> remark against item 80. Bihar and Orissa.—Attention is invited to the remarks in the previous report. Central Provinces.—A non-official Bill was introduced in the Legislative Council on the 29th August, 1931, and circulated for eliciting public opinion. The opinions have been received but the mover has not proceeded with the Bill yet. Madras.—Attention is invited to the remarks in the previous report. Bombay.—The recommendation made by the Provincial Banking Enquiry Committee in paragraph 244 of its report regarding the enactment of a simple Rural Insolvency Act has been considered by Government in consultation with the High Court and other judicial officers. A majority of the judicial officers consulted do not support the recommendation, their main objections being— (1) The Deccan Agriculturists' Relief Act gives sufficient protection to agriculturists against imprisonment and attachment or sale of their land; Chapter IV of the Act also provides for recourse to insolvency;
80. Working of Usurious Loans Act (paragraphs 364-365).	
81. Examination of case for Money-lenders' Act (paragraph 366).	
82. Examination of case for Rural Insolvency Act (paragraph 367).	

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER XII.—The Finance of Agriculture—concl.	
	(2) The agriculturists are generally averse to having recourse to insolvency proceedings; (3) The easy resort to insolvency proceedings might deprive the agriculturist of his land, which would pass into the hands of the moneylender and reduce him to the status of a daily labourer; (4) The credit of the agriculturist, which is at present very low, would be ruined altogether. In spite of these objections, Government will support the proposal for such legislation should it be favoured by other provinces, if it is possible to devise an Act which would give the agriculturist the benefit of insolvency and yet preserve to him the possession of unencumbered land sufficient for his maintenance. United Provinces.—<i>Vide</i> remark against item 80. Bihar and Orissa.—It has been decided not to introduce a Rural Insolvency Act—<i>vide</i> remarks in the previous report. Central Provinces.—No action has so far been taken. The recommendation made by the Commission is under examination along with that made by the Central Banking Enquiry Committee in paragraph 93 of their report. United Provinces.—<i>Vide</i> remark against item 80. Bihar and Orissa.—The action taken has already been mentioned in the previous report. Central Provinces.—An experiment on voluntary basis is being tried in selected areas in one division. A private as well as a Government Bill are under consideration. Bombay.—The proposal was considered but no action was deemed to be necessary. United Provinces.—<i>Vide</i> remark against item 80. Bihar and Orissa.—Attention is invited to the remarks in the previous report. Central Provinces.—No action has so far been taken. Bihar and Orissa.—The local Government have recently appointed a Committee on Co-operation in this province. The report of this committee is being awaited. Delhi.—An enquiry into the working of the co-operative movement has been made during the year. The local Administration is considering the observations made by the Central Areas Banking Enquiry Committee, on the movement in the Province. Madras.—The district federations and the Provincial Co-operative Union continued to hold training classes for <i>panchayatdars</i> of societies. In 1930-31, training classes were held in 707 centres at which 8,172 <i>panchayatdars</i> belonging to 1,102 societies were trained. The total
83. Conciliation Bodies (paragraph 367).	
84. Appointment of Official Receivers (paragraph 367).	
CHAPTER XIII.—Co-operation.	
85. Enquiry into working of Co-operative Movement in provinces other than the Central Provinces, the United Provinces, Madras and Burma (paragraph 373).	
86. Building up of efficient Co-operative Staff (paragraph 374).	

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER XIII.—Co-operation—<i>contd.</i>	expenditure incurred was Rs. 8,237, of which Government contribution amounted to Rs. 5,199. These training classes have not produced much good. The duration of the course was so short that the <i>panchayatdars</i> could not be given any useful instruction. It was, therefore, felt that there was no justification for spending large amounts on these classes especially in the face of the great financial stringency. Although in the budget of 1931-32 the Government provided Rs. 25,000 under subsidies for conducting training classes, a sum of Rs. 21,600 was surrendered as a measure of retrenchment. A less expensive method of giving instruction to <i>panchayatdars</i> during general body meetings of local co-operative unions has been suggested for adoption by Central Banks and Federations. For the training of official and non-official staff, the six training institutes in the <i>mufassal</i> and the Government Institute of Commerce, Madras, continued to hold the classes. The course of training in the Institutes was extended to nine months as the four and a half months' course was found too short. The syllabus has also been amplified and the new course began in July 1931. During 1930-31, 804 candidates were admitted to these Institutes and of these 474 came out successful. The Institutes spent Rs. 29,831 and of this, Government contribution amounted to Rs. 16,000. In the co-operative class conducted by the Government Institute of Commerce, 40 candidates were selected and of these 22 came out successful—5 in all subjects, 5 in three subjects, 5 in two subjects and 7 in one subject. Bombay.—Owing to the continued financial stringency, it has not been possible to find any funds for any of the proposals. Bengal.—The principle is accepted by the local Government. United Provinces.—Adequate training is given to the staff. Punjab.—The action taken has already been mentioned in the second report. A much larger number of secretaries' classes was held and also a class of Central Bank employees. Bihar and Orissa.—It has not yet been possible to give effect to this recommendation for want of funds. Central Provinces.—Special attention is paid to the training and improvement of the staff. Assam.—Attention is invited to the remarks in the previous report. The Department was strengthened by the appointment of two temporary inspectors of co-operative societies. N.-W. F. Province.—Attention is invited to the remarks in the previous report. Delhi.—The co-operative movement of this province being directly under the Registrar, Co-operative Societies, Punjab, the Punjab method for the training of staff, which has been well appreciated by the Royal Commission, is being followed. Coorg.—As a measure of retrenchment occasioned by the present financial crisis, the strength of the temporary inspectorate had to be reduced by one. Madras.—On 31st December, 1931, there were 411 supervising unions and 17 district federations. The work of the supervising unions has been unsatisfactory with a few exceptions. Nine unions were liquidated during 1931. In the absence of facilities for the proper working of unions, the societies will have to be under the direct supervision of Central Banks. The district federations have also not done much active work and the Central Banks in many districts have opened administrative sections and have taken up the functions of the federations.
87. Supervising Unions (paragraph 375).	

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER XIII.—Co-operation—<i>contd.</i>	Bombay.—Steps are being taken to pool the supervision fees by districts with a view to evolving permanent arrangements for satisfactory supervision of all primary societies. Bengal.—As the present system of supervision by Central Banks obtaining in this province has been working quite satisfactorily the local Government do not consider it expedient to adopt the recommendation for the organisation of a supervising agency by federating primary societies into supervising unions. United Provinces.—212 supervisors, more than four-fifths of the total number in the province, are employed by the United Provinces Co-operative Union in 56 out of the 69 Central Banks in the province. The Union received a grant of Rs. 66,900 from Government. Punjab.—Attention is invited to the remarks in the previous report. Bihar and Orissa.—The report of the Provincial Committee on Co-operation is being awaited. Central Provinces.—One more co-operative institute for the Nerbudda division has been registered for the purpose of supervising and educating co-operative societies and carrying on general propaganda. Bombay.—The question of training a junior civilian in the work of the co-operative department was considered by Government. No action was considered necessary as the lack of such training did not appear to have handicapped the officers who have held the post of Registrars so far. The proposal for the deputation of officers of the co-operative department to Europe to study the co-operative movement will be considered when the financial situation improves. United Provinces.—No action has been taken in regard to the proposal to appoint an Indian Civil Service officer as deputy registrar. On the contrary it is proposed to abolish one post of deputy registrar as a measure of economy and to combine the post of Registrar with that of the Director of Industries. Bihar and Orissa.—The Registrar of Co-operative Societies, who is a member of the Indian Civil Service, visited the United Provinces and the Punjab during the year for the purpose of studying the working of the movements in those provinces. Central Provinces.—The policy enunciated in the report is followed in the selection of the Registrar with due regard to the exigencies of service. Central Provinces.—The present arrangement of the dual charge of the Registrar, Co-operative Societies, combined with that of the Director of Industries is to continue for a further period of one year. The question of separating the appointment will be considered later. Madras.—<i>Vide</i> remarks against item 86. Bombay.—The auditors of the co-operative department are required to pass the examination for the Government Diploma in Accountancy or the Government Diploma in Co-operative Accountancy. No one is confirmed unless he has the necessary accountancy qualifications. Even for the post of sub-auditors preference is given to those who have passed the Accountancy Examination. Agricultural organisers also are now required to pass in the two papers on co-operation set for the examination for the award of the Government Diploma in Co-operative Accountancy.
88. Policy to be followed in selecting Registrars of Co-operative Societies (paragraph 76).	
89. Appointment of a whole-time Registrar in the Central Provinces (paragraph 376).	
90. Training of Co-operative staff (paragraph 377).	

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER XIII.—Co-operation — <i>contd.</i>	Bengal.—The recommendation regarding the training of staff has been accepted in principle by the local Government. United Provinces.—Inspector and supervisor candidates received training in co-operation for full one year before appointment. Teachers for adult schools also attended training classes for six months. Punjab.—Attention is invited to the remarks in the previous reports. Burma.—No officers have been recruited for the co-operative department since April, 1929. The officers recruited after January, 1926, have received training at the Provincial Training College, Meiktila, and in the field on lines substantially the same as those followed in the Punjab. The routine work of the department has not decreased in proportion to the reduction in staff, with the result that in general the officers of the department are overworked. The burden of liquidation work is unlikely to decrease for at least 18 months. During that period it will be very difficult to arrange for "refresher" classes or to release officers for the period of whole-time study necessary for a candidate for the Diploma in Co-operative Accountancy granted by the Government Accountancy Diploma Board. Bihar and Orissa.—The action taken has already been mentioned in the previous report. Central Provinces.—The action taken on this recommendation has already been mentioned in the first report. Training classes for the staff of Central Banks and Societies were held by the Northern, Chhattisgarh, Nagpur and Nerbudda co-operative institutes. Refresher courses could not be held on account of financial stringency. N.-W. F. Province.—Four inspectors and ten sub-inspectors were under training. Coorg.—Classes were held for the training of supervisors of unions and secretaries with satisfactory results. Madras.—The Government assistance to land reclamation societies was continued. On 31st December, 1931, there were 12 land reclamation societies which owed to Government Rs. 2,31,926. Out of advances given by Government to loan and sale societies for the construction of godowns, a sum of Rs. 9,962 was outstanding against them. Both land reclamation and loan and sale societies were given the assistance of special Government staff. The local Government also sanctioned the appointment of a marketing officer for the Salem weavers' co-operative society to help the society to find a sale for its products. The marketing officer was of great help to the society, but has since been withdrawn. Bombay.—Grants are being made to sale societies in their early stages to enable them to carry on a vigorous propaganda and to pay for a good business manager. Grants are also given to the cattle insurance societies and backward societies. United Provinces.—Grants sanctioned for specialized forms of co-operative activity were (i) Rs. 1,200 for work on the consolidation of agricultural holdings, (ii) Rs. 900 contribution for supervision of the Industrial Co-operative Stores, Agra, (iii) to the United Provinces Co-operative Union, (a) Rs. 2,000 for village guides, (b) Rs. 4,662 for publication of the <i>Co-operative Journal</i>, (c) Rs. 66,900 for supervising staff for central banks, and (d) Rs. 1,000 for training of supervisors and for supervision of societies of cottage industrialists, (iv) Rs. 5,000 for adult education and (v) Rs. 4,500 for rural reconstruction.

91. Government Aid to Specialised Forms of Co-operative activity (paragraph 378).

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).								
CHAPTER XIII.—Co-operation — <i>contd.</i>	Punjab.—The action taken on this recommendation has already been mentioned in the first report. Bihar and Orissa.—The need for the organisation of such societies has been kept in view but material progress is impossible without special staff. Central Provinces.—Owing to financial stringency no provision could be made in the budget. Delhi.—The Government does not give aid to any special form of co-operation. It only gives Rs. 2,520 as grant-in-aid to the Delhi Audit Fund which maintains a staff for supervision and audit. Madras.—The expenditure on co-operative education during 1931 was as follows:— <table> <tr> <th></th><th>Rs.</th></tr> <tr> <td>(1) Subsidy to the training institutes</td><td>16,000</td></tr> <tr> <td>(2) Subsidy to federations for holding <i>panchayatdars</i> training classes</td><td>3,400</td></tr> <tr> <td>(3) Amount spent on co-operative classes in the Government Institute of Commerce</td><td>5,352</td></tr> </table> The audit of co-operative societies is conducted by (1) Government inspectors, (2) certified auditors, and (3) Government inspectors deputed for work under audit unions and audit scheme in which definite contributions from societies are received. The majority of societies are audited by Government auditors of whom there were 282, including 26 senior inspectors, on 31st December, 1931. The audit fee, including contributions to audit schemes received during the year 1931, amounted to Rs. 27,945. Bombay.—As reported before, the local Government recently decided to levy a small percentage charge on the working capital of all agricultural and non-agricultural co-operative societies to meet part of the cost of audit. Out of this nearly two-thirds of the amount recovered is paid back as subsidy to the various supervising agencies and nearly one-third (Rs. 25,000) is credited to Government to meet part of the cost of audit. United Provinces.—A grant of Rs. 66,900 was made to the United Provinces Co-operative Union for maintaining supervisors to educate members in the principles of co-operation. Government expenditure on audit, amounted to Rs. 61,934, which was offset by Rs. 36,270 realized from banks and societies as contribution. Punjab.—Attention is invited to the remarks in the first report. Government aid to the Punjab Co-operative Union has been reduced by Rs. 27,100. Muqaddams employed with the co-operative better farming societies have been withdrawn. The allotment for loans to mortgage banks has been surrendered. Bihar and Orissa.—The report of the Provincial Committee on Co-operation is being awaited. Central Provinces.—The action taken on this recommendation has already been mentioned in the first report. Owing to financial stringency Government grants to the institutes for co-operative education had to be reduced from Rs. 43,188 to Rs. 21,594. Delhi.—<i>Vide</i> remarks against item No. 91.		Rs.	(1) Subsidy to the training institutes	16,000	(2) Subsidy to federations for holding <i>panchayatdars</i> training classes	3,400	(3) Amount spent on co-operative classes in the Government Institute of Commerce	5,352
	Rs.								
(1) Subsidy to the training institutes	16,000								
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(3) Amount spent on co-operative classes in the Government Institute of Commerce	5,352								

92. Government expenditure on Education and Audit (paragraph 378).

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER XIII.—Co-operation — <i>contd.</i>	
93. Concessions to Co-operative Societies (paragraph 379).	Madras.—The proposal to grant a rebate on money order commission, referred to in the previous report, could not be considered owing to financial stringency. The question of exemption from income-tax of the income from securities held by co-operative societies is being examined in connexion with the recommendation of the Central Banking Enquiry Committee on this subject. During 1931, the exemption from payment of fees under the law of Registration was partially withdrawn and the Government have ordered that co-operative societies shall pay fees, under the law of Registration, at half rates. Bombay.—The question is still under consideration. Bengal.—The recommendation has been accepted in principle, subject to the conditions that the use of the facilities should be confined to <i>bona fide</i> transactions between societies, and that the extension of the facilities does not entail any extra expenditure upon Government, it being left to the Registrar of Co-operative Societies to take such action as may be called for to translate the principle into practice in individual cases. United Provinces.—No further concessions were granted during the year. Punjab.—For reasons of economy, the grant by the local Government of a refund of $\frac{1}{2}$ of the money order commission has now had to be given up altogether. This amounts this year to Rs. 6,000 and in a full year to Rs. 14,000. Bihar and Orissa.—Attention is invited to the remarks in the previous report. Central Provinces.—The action taken on this recommendation has already been mentioned in the previous reports. Delhi.—No new concessions were made. Those already made are on a generous scale. United Provinces.—A large number of officials took a keen interest in the movement. Collections of co-operative dues by <i>tahsildars</i> were somewhat better than in the previous year. Punjab.—The action taken on this recommendation has already been mentioned in the first report. Bihar and Orissa.—The local Government have already accepted this recommendation. Central Provinces.—Attention is invited to the remark in the first report. North-West Frontier Province.—All district officials are anxious for the spread of the movement. Delhi.—Mutual help and sympathy exist among all the beneficent departments. District officers are also generally sympathetic and helpful, but still a good deal is to be desired in the state of their knowledge of the real aims and objects of the movement. Coorg.—The local Administration has permitted public servants to take an active part in the management of non-credit societies. It is hoped that the participation of Government servants in the management of the store societies will prove beneficial to the movement.
94. Attitude of Officials to Co-operative Movement (paragraph 380).	

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER XIII.—Co-operation — <i>contd.</i>	
95. Land Mortgage Banks (paragraphs 381—384).	Madras.—The Central Land Mortgage Bank was not able to attract debentures in any large measure, the main obstacles being the other attractive investments offered to the public, such as Mysore Government loan and the Government of India loan at 6 per cent. The Bank, therefore, raised its rate of interest on debentures from 6 to 6$\frac{1}{2}$ per cent. and floated a new series of ten-year debentures at this rate. Even this enhanced rate has not brought in any large amount of debenture money, the total amount of debentures actually issued by the bank till the close of 1931 being only Rs. 8.81 lakhs. The recent flotation of the Government loan at 6$\frac{1}{2}$ per cent with the conditions regarding freedom from income-tax has further impeded the sale of debentures. The inclusion of the debentures under trustee securities was at the end of the year under the consideration of the Government of India. When this is done, the debentures of the bank may be purchased by Insurance companies, trustees of religious and charitable institutions and others. The organization of new primary land mortgage banks was suspended as there was no prospect of a steady flow of funds to supply the needs of new banks. Some of the banks floated debentures locally and the Alamuru, Gudlavalluru and the Vadlamannadu banks in the Circars have been fairly successful in attracting local capital. Bombay.—The local Government have already purchased debentures worth Rs. 2 lakhs. They have also sanctioned a loan of Rs. 3 lakhs to the Bombay Provincial Co-operative Bank for financing land mortgage banks. United Provinces.—The land mortgage society organized in the previous year worked satisfactorily but was not able to make much progress. Punjab.—Land Mortgage Banks' difficulties, never small, have been very much increased by low prices. No further loans are being issued to them for the present, and now no loans are being issued by them. Overdues and default are increasing involuntarily. Repayments are being spread over a longer period. The Provincial Bank, however, is paying Government in full. Bihar and Orissa.—The report of the Provincial Committee on Co-operation is being awaited. Central Provinces.—The matter was still under consideration. Delhi.—No mortgage bank exists in the Province and the present movement of agricultural depression is inopportune for this big scheme. Bengal.—The principle has been accepted by the local Government. United Provinces.—A large number of societies registered primarily for the supply of credit to the members also go in for better farming and better living activities, including sanitary improvements. Thus they are in effect, though not in name, multiple-purpose societies. Punjab.—The single purpose society is still the general rule. Bihar and Orissa.—Attention is invited to the remark in the first report. Central Provinces.—No more societies for multiple purposes have been formed. Delhi.—The single purpose society is still the general rule.
96. Single versus Multiple Purpose Societies (paragraph 385).	

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER XIII.—Co-operation — <i>contd.</i>	
97. Encouragement of Co-operative Purchase and Sale (paragraph 387).	Bengal.—While the principle underlying the recommendations regarding (1) intensive education in the advantages of co-operative purchase and sale, and (2) large buyers helping the co-operative sale societies, is not unacceptable and in fact a number of societies of this category already exists in this province, there are other factors which should be taken into account in dealing with purchase and sale societies. This Government have, therefore, come to the conclusion that in the present circumstances anything like a widespread movement for co-operative purchase and sale is premature. The recommendation regarding giving co-operative societies preference in the purchase of the requirements of Government departments has been accepted by the local Government in principle. United Provinces.—Some references have been made in items 31, 68 and 126 regarding the purchase and sale of <i>ghi</i> (clarified butter), cotton and eggs. The Ghugli Sugarcane Sale Union supplied nearly a lakh of maunds of sugarcane, as compared with 53,000 maunds in 1930, and earned a profit of Rs. 1,111. There is considerable scope for expansion, but the local sugar mill now prefers to purchase the cane direct from cultivators and so avoid paying commission to the contractors and societies. The mill can earn profits in other ways also by dealing direct with the cultivators; the latter realize this, but often prefer to incur a loss rather than to wait for hours at the mill. A strong demand has consequently arisen from the societies for a mill of their own, but neither money nor skilled management is available for a big venture. Small power crushers are being installed in five villages. In two of them it is proposed to make <i>gur</i> only while the other three societies are putting up centrifugal machines for making sugar as well. Bihar and Orissa.—Attention is invited to the remarks in the previous reports. Central Provinces.—Attention is invited to the remarks in the previous reports. There are eight co-operative <i>adat</i> shops which perform exactly the same functions as ordinary commission agents but secure for the producers fair weighing, fair dealing and fair price. Delhi.—No such society exists and in the present circumstances of the movement there are no chances of success for it. Coorg.—Six co-operative purchase and sale societies and two loan and sale societies are working satisfactorily. Further measures to give effect to the recommendation are under consideration. Madras.—The deputy director of agriculture appointed to work in the co-operative department joined duty on 12th March, 1931. He inspected all loan and sale societies and suggested ways and means to improve their working. He also arranged for the distribution of improved cotton seed to the ryots in all the principal cotton areas. He has since however been reverted to the agricultural department. Bengal.—The recommendations regarding supply of expert advice to co-operative societies have been accepted in principle by the local Government, who also accept the recommendation regarding the desirability of appointing a special officer to work under the Registrar but consider that the appointment of subordinates who have agricultural degrees and experience is more important. United Provinces.—A marketing officer could not be appointed but officers of the agricultural department gave advice and help to the cotton production and sale societies.
98. Expert advice to Co-operative Societies (paragraph 388).	

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER XIII.—Co-operation — <i>concl.</i>	
99. Appointment of Agricultural officers to work under Registrars of Co-operative Societies (paragraph 388).	Punjab.—The action taken on these recommendations has already been mentioned in the first report. Bihar and Orissa.—Attention is invited to the remarks in the first report. Central Provinces.—No necessity for this has yet arisen in the Central Provinces. Delhi.—The help and expert advice of all beneficent departments are readily available when required. Madras.—<i>Vide</i> remarks against item 98. Bombay.—The deputy registrar of co-operative societies in Sind has continued to be in charge of agricultural propaganda in several <i>talukas</i> in Sind. An agricultural organiser is working under each assistant registrar for the organization and supervision of non-credit societies. Bengal.—<i>Vide</i> remarks against item 98. United Provinces.—Two members of the subordinate agricultural service are working in the co-operative department and the need for more men is not felt as there is close co-operation between the officers of the two departments. Punjab.—The action taken on this recommendation has already been mentioned in the previous report. Bihar and Orissa.—Attention is invited to the remark in the first report. Central Provinces.—Attention is invited to the remark in the first report. Bombay.—The question is still under consideration. Bengal.—The principle has been accepted. United Provinces.—The lady inspector of co-operative societies visited the Punjab to see the work done there among women. An assistant registrar and the inspector for the development of agricultural industries studied the working of grain <i>golas</i> (depots) in Bihar. Punjab.—The action taken on this recommendation has already been mentioned in the first report. Bihar and Orissa.—Attention is invited to the remark in the first report. Central Provinces.—No opportunity has arisen since the last report but this recommendation will be borne in mind. Delhi.—This question does not arise in the special circumstances of this province, all officers to which are deputed from the Punjab.
100. Encouragement of Official and Honorary Workers to study Co-operative Developments in other Provinces (paragraph 389).	
CHAPTER XIV.—The Village.	
101. Medical aid (paragraphs 401—404).	Madras.—The total number of subsidized rural dispensaries under the scheme, referred to in the previous report, working at the end of the year was 506. The enhanced subsidy sanctioned for midwives attracted many qualified midwives and they were appointed to many of the subsidized rural dispensaries.

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER XIV.—The Village — <i>contd.</i>	United Provinces.—The district health service could not be extended to additional districts owing to lack of funds. The special scheme mentioned in last year's report, which is being worked in two <i>tahsils</i> of the Gorakhpur district, continued in operation. Health publicity is being carried on by the public health department as part of its routine duties. General details of the methods adopted were mentioned last year. Considerable use was made of the motor van to give demonstrations in roadside villages. Lack of funds handicapped the extension to rural areas of maternity and child welfare work. Ten new centres were, however, opened in rural areas during the year. Co-operative societies report some progress in connection with sanitary improvement. In over 1,000 villages, manure is now stored outside the inhabited areas and the number of societies in which the village aid scheme has been introduced increased to 300. More than 800 persons were trained in first aid work and over 400 <i>daïs</i> (untrained midwives) are working more or less in accordance with sanitary instructions. Some 500 new village dispensaries were opened during the year and 60,000 persons treated at them. Government continued to make grants to local boards and individuals for the expansion of medical relief in rural tracts on the lines previously followed. Although the subsidy granted to private practitioners who settle in rural areas was reduced by half, the number of such practitioners did not diminish during the year. The number of dispensaries working under the rural area scheme decreased, however, from 30 in 1930 to 21 in 1931. The number of private practitioners granted subsidies during the year was 10, as against 15 in 1930. The number of women sub-assistant surgeons and midwives employed under the scheme for the expansion of medical relief to women by women in rural areas and small towns rose from 12 and 27 to 14 and 33, respectively. The number could not be further increased owing to difficulties in housing the staff and to lack of co-operation on the part of several local boards. The conditions under which the female medical staff have to work are far from satisfactory. The scheme has been further revised and midwife-compounders are to take the place of midwives and are to be posted to work only under qualified medical women in charge of rural area dispensaries. It is proposed to introduce this new scheme in twelve places only. It is not possible, owing to lack of funds for the necessary buildings, to try the scheme in other areas. In view of the prevailing financial stringency, the scheme for the sale of cinchona tablets could not be introduced, nor was any progress possible in further experiments in the cultivation of cinchona. The public health department has been experimenting with <i>Plasmochin</i>, a new German drug, for the treatment of malaria. Over 8,000 cases have been treated with cinchona and <i>Plasmochin</i> and the results have been very encouraging as judged by diminution in the relapse and spleen rates. <i>Plasmochin</i> has been introduced in view of its efficacy in killing those forms of the malarial parasite which infect mosquitoes and thus an attempt is being made to prevent transmission of infection—a factor of great importance in areas where no anti-malarial schemes can be carried out commensurate with cost. Anti-malarial byelaws were enforced during the year by a few more district boards. Bihar and Orissa.—Action is being taken to institute a course of lectures to village <i>gurus</i> (teachers) on hygiene and sanitation by the health officer of the Gaya district board. The lectures are proposed to be printed in Hindi and Urdu and villagers will be encouraged to attend the course. The result of this experiment will be watched by Government. Central Provinces.—The scheme for granting subsidies to private medical practitioners for settling in important villages in the interior did not work satisfactorily and in view of the fact that an undertaking was given to pay the subsidy for a period of three years of approved work, Government has decided not to discontinue the scheme summarily but to examine the working of each subsidised practitioner and to deal each case on its merits. No fresh subsidies are to be given and no subsidies are to continue in any case.

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER—XIV.—The Village — <i>contd.</i>	Assam.—The post of the Public Health Engineer, referred to in the previous report, has since been abolished as a measure of economy. North-West Frontier Province.—Three new public rural dispensaries have been opened in Nizampur (Peshawar district), Tajaury (Bannu district) and Karak (Kohat District). Arrangements have been completed for opening just after the period under report of dispensaries at Gurgun (Kohat district), Paniala and Parea (both in the Dera Ismail Khan district); also the opening of three female sections in the <i>Tahsil</i> headquarters at Nowshera, Swabi and Haripur, with a female sub-assistant surgeon in charge of each, has been sanctioned, work having actually been started at Haripur. Baluchistan.—Attention is invited to the remarks in the previous report. Delhi.—There are five dispensaries suitably situated in the rural area of the province, which serve on an average 40 villages each. Further expansion in the form of establishing two more dispensaries and the introduction of one or more travelling dispensaries was contemplated, but owing to financial stringency the scheme did not materialise. The public health staff has been active in coping with diseases, especially those of an epidemic nature. Prophylactic measures relating to malaria were continued during the period under review by the distribution of quinine amongst the villagers by the public health staff and members of the District Board. The area was not entirely free from epidemic diseases. Cholera was reported from two villages but was rapidly brought under control. The general health and sanitation of villages on the whole was satisfactory. Bengal.—(a) The local Government assist by making grants of Rs. 2½ lakhs a year for the improvement of water-supply in rural areas. (b) In addition to the provision of Rs. 2½ lakhs, they made a provision of Rs. 2 lakhs this year for making loans to district boards out of which Rs. 75,000 has been utilised for two district boards, the other district boards not taking loans due to economical conditions. (c) Some more union boards were established during the year, thereby enabling the villagers to tax themselves in order to take sanitary measures including improvement of local water-supply. United Provinces.—The subject is receiving the attention of the public health department as a part of its normal programme of work. No special co-operative societies have been organized for this particular purpose, but improvement of water supply is attended to along with other village improvement work. 400 wells were supplied with parapets and 4,000 were disinfected. Central Provinces.—No grants are now made to district councils for the improvement of water-supply in rural areas owing to financial stringency. During the year 1930-31, a grant of Rs. 4,657 only was paid to the district council, Akola. Assam.—On account of financial difficulties, the local Government could not sanction during the year 1931-32 any grants to the local boards for the improvement of rural water-supplies. In the year 1930-31, the boards expended on the improvement of water-supplies in rural areas a sum of Rs. 1,12,281, of which Rs. 47,403 was met from Government subsidies of this and former years. North-West Frontier Province.—Nothing has been done for want of funds; this matter, in certain areas, represents perhaps the most crying need of the Province.

102. Improvement of Water Supply (paragraph 406).

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER XIV.—The Village—<i>contd.</i>	Baluchistan.—Attention is invited to the remarks in the previous report. Delhi.—A list of all villages in the rural area in need of an efficient well—water supply was submitted to the District Board. The scheme involved repairs to existing wells and the construction of new ones. The District Board recognised the importance of the scheme but were unable to meet the expenditure. Consequently a modified estimate has been submitted for sanction. The scheme for improving the water supply at Shahdara, a rural town situated on the Eastern Bank of the Jumna river, has materialised and construction work is now in progress. The drainage of the town has also been improved. 1931 proved a more favourable year for rainfall which helped to alleviate the distressed state of affairs in the villages. Madras.—Due to financial stringency, the local Government decided to suspend the scheme for the development of rural pisciculture inaugurated in the year 1930. This section of the fisheries department was therefore closed in 1931. During the short period of one year the scheme was in operation, propaganda was carried on with a considerable measure of success. On the whole, a total of 98 villages were visited by the propaganda staff in the Chingleput, Conjeeveram and Saidapet taluks, and 2,172 wells and 264 ponds were examined. Of these, 175 wells and 35 ponds were selected as suitable for piscicultural operations and 45 wells and one pond were stocked. <i>Catla</i> proved the best fish for stocking wells both in regard to rapid growth and ready sale. In the wells stocked with this fish by way of demonstration, remarkable rate of growth was noticed by the public of Chingleput; fry measuring $3\frac{1}{2}$ inches had attained 18 inches by about nine months. The great disparity in the proportion of wells to ponds operated on was due to the fact that there are very few ponds owned by single individuals. In the three taluks surveyed, only ten private ponds were found. The ownership of the vast majority of the village ponds vests in the revenue department or local bodies unlike wells which belong to individuals. The task of initiating pisciculture in ponds is therefore beset with many difficulties. No fishery revenue is derived by local bodies from the majority of village ponds. The villagers are not interested in improving the fisheries of village ponds as the ownership does not vest in them and they are not sure of benefits that will accrue from their endeavours. In consequence the fisheries of village ponds are generally neglected. While the local bodies were agreeable to give a trial to the scheme in one of their ponds they expressed financial and other difficulties in experimenting in all the ponds in their area at once. The efforts of the fisheries department met with success in the following cases. The Taluk Board, Saidapet, agreed to start pisciculture at Veeranthamankulam, a perennial pond of three acres in Pallikarani firka, and sanctioned an expenditure of Rs. 250. The President of Sembakkam panchayat consented to cultivate fish in the forest panchayat pond accepting the department's advice. The President of the Madambakkam village panchayat near Pallavaram and the trustees of the Tenupureeswarar temple offered to start fish culture in two of their ponds. At Irumbuliyur, the village panchayat were desirous to develop the fisheries of a wayside drinking water pond but expressed inability to meet the entire cost of stocking. As an inducement they were offered free fish stocking for the first operation provided they cleaned the pond and arranged for guarding the same. At Aminjikarai, Vadagaram and Settiaragaram and Iyanambakkam, the owners, though some of them are Brahmans, agreed to cultivate fish and were anxious to try the experiment as soon as <i>catla</i> fry were available for stocking. Once the public realize the quick returns and handsome profits accruing from pisciculture as a by-industry it will be possible to induce them to take to the cultivation of fish in public ponds with the consent of the local bodies concerned.
103. Addition of Fish to Cultivator's Diet (paragraph 415).	

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER XIV.—The Village—<i>contd.</i>	Inland fisheries.—A site for the <i>Hilsa</i> hatchery at Bezwnada was handed over to this department towards the close of the year. Owing to financial stringency, the proposal to organize and develop the fresh water fisheries of the Ganjam district was not revived. With a view to economy, however, suitable public buildings lying vacant wherever available were taken over in place of new store sheds and offices originally proposed in 1927 and steps were taken to maintain the buildings which would have otherwise been dismantled or sold. Refrigeration.—At the instance of a prominent fish merchant of Malpe, South Kanara, who is the owner of the first fish refrigeration factory in India which he has built on the advice of the department, Government are now considering the question of reduction of railway freight on frozen fish. If the trade in refrigerated fish develops by the grant of suitable freight facilities, it is not improbable that a considerable portion, if not the whole, of the catches of sardine and mackerel now converted into manure could be ultimately made available in markets in the interior of the Presidency as fresh fish for human consumption. A similar request for the construction of a refrigeration factory at Negapatam is now under consideration. The proposal includes the exploitation of the new fisheries discovered by the trawler off the Negapatam coast. Bengal.—The recommendation has been accepted in principle, but there is no prospect of re-establishing the Fisheries Department in Bengal at present. Bihar and Orissa.—Carp fry distribution from various centres in the province was carried on successfully during 1931, and the supply of fry amounted to 4,16,500. The experiment of stocking the Sone Canal with carp fry from the Patna centre continued and a large amount of fish from this canal was supplied to Patna and other markets. The question of stocking another canal was dropped owing to financial stringency. One propaganda officer was appointed, but owing to financial stringency the proposal for the extension of the carp-breeding centre at Ghatsila was dropped and the post of the Inspector of Fisheries abolished. Central Provinces.—No action is required in this province. Delhi.—This recommendation does not apply to the Delhi Province as fish is not a staple food. The inhabitants are largely vegetarian. United Provinces.—Attention is invited to the remarks in the previous report. Bihar and Orissa.—Attention is invited to the remarks in the first report. North-West Frontier Province.—The North-West Frontier Province Pure Food Rules, 1931, have been extended to certain towns in the Province with a view to prevent adulteration of foodstuffs in the towns. Baluchistan.—No action has yet been taken towards this direction. Delhi.—No definite research has been made into this problem. Adulteration of food is carried on to an extent in the urban area but there is practically none in the rural areas, where the nutrition is generally good.
104. Research into Problems of Human Nutrition (paragraph 417).	

Subject (with paragraph of the Report).

Action taken by the Government (or Administration).

CHAPTER XIV.—The Village—*contd.*

105. Co-operative effort to improve amenities of Village Life with special reference to Uplift Campaigns and Rural Community Movements (paragraphs 421—424 and 429).

Madras.—There are no societies specially for rural reconstruction work. But the Provincial Co-operative Union has been financing and supervising the rural reconstruction centres started under its auspices in the previous years and there were eight such centres. Besides these there was another centre at Elur in the Salem district financed by the local central bank. The activities adopted generally in all the centres are (1) to help and improve co-operative societies, (2) to organize and help village *panchayats*, (3) to popularize subsidiary industries such as hand-spinning and poultry keeping, (4) to arrange for agricultural demonstrations, (5) to dissuade people from drink and (6) to promote adult education. A sum of Rs. 54,076 has been spent on rural reconstruction work during the last three years and this was contributed by the Provincial Bank and some Central Banks.

Bombay.—An agricultural and economic survey of Kakhandiki village in the Bijapur district is being conducted and four sub-committees have been formed (*viz.*, agricultural improvements committee, garden committee, education committee and sanitary committee) to work in different directions. Half a dozen *bundling* schemes have been prepared. A model garden has been established and a girl school has been opened during the year.

Similar schemes are also contemplated in some villages of Sholapur, Ahmedabad and Kanara districts.

The Deccan Agricultural Association, Poona, has already started its activities with regard to rural uplift at Khed Shivapur—a village 14 miles from Poona—and the agricultural department is giving its full co-operation in the scheme.

United Provinces.—In villages where schools exist the "village aid" scheme is being merged in the activities of the Junior Red Cross groups as school children are easier to train and the school already forms the nucleus for many public health activities. In other villages reliance is placed on, and training imparted to, adult villagers and village officials.

Considerable progress has been made in the extension of the Junior Red Cross movement, the details of which were mentioned last year. The number of such groups rose from 75 to 517 and membership from about 3,000 to over 15,000. Ninety per cent. of these groups have been formed in village schools. To the other activities of these groups have been added the filling up of hollows, levelling of school compounds, cleaning of school premises and furniture, gardening, cleansing and tooth cleaning parades and anti-malarial work in villages. Scholars of village schools are also taking up the Mackenzie school course in first aid, hygiene and sanitation. One group built its school road, about 45 feet long and nine feet wide, the members improvising the rammers themselves. Some groups exchanged albums with groups overseas.

Work is being continued on the other measures enforced by the public health department in order to create interest in the masses in their own health and fitness and in environmental hygiene, of which mention was made in last year's report.

There are now three central co-operative organizations for the co-ordination of the activities of better living societies; one of them runs an agricultural institute or training class for village guides. Informal organizations exist in several other districts, though they have not been registered. The number of primary better living societies is but a small fraction of those which go in for these activities; a large number of credit societies carry on this work as part of their ordinary duties.

The best method introducing better living activities in villages is still a matter of experiment. The Benares system aimed at selecting villages all over the district, wherever the people appeared to be favourably inclined. In Partabgarh certain centres were selected and attempts made to develop work around these centres. The latest idea is to take a small compact area and try to concentrate activities there. This is the line that is being pursued at Masodha in the Fyzabad district. The advantage of this method is that it makes supervision easier—adult schools in particular need constant visits at night if teachers are to be kept up to the mark. A group of ten villages was accordingly selected close to the agricultural farm and an inspector was stationed

Subject (with paragraph of the Report).

Action taken by the Government (or Administration).

CHAPTER XIV.—The Village—*contd.*

in that area, chiefly to train the teachers of adult schools by practical demonstrations in the act of teaching. He also has to co-ordinate the activities of the four development departments—agriculture, co-operative, education and sanitation. In these ten small villages, no less than 180 young men attend the class for adults, though the people are mostly of the Kurmi caste, who are very conservative and do not believe in education. About 60 adults have finished their third book and 40 their second. Scouting has been introduced in the area and every village has its own physical culture club. All the village dais (midwives) have been trained. Every well in the area was cleaned and permanganated and twelve wells were supplied with improved types of parapet. Some 40 cases of cholera were treated by the local teachers, of which 35 recovered. Medicines are kept at a central place for the whole area and an experienced *vaidya* visits the area regularly once a week. In six of the ten villages every child has been vaccinated. Manure is kept by all in pits outside the inhabited area. Green manuring was done on 80 acres and artificial manures worth Rs. 125 were used. Meston ploughs were introduced and 29 are in use. Improved pattern furnaces were constructed for *gur* making. About 50 disputes were settled locally by the *panchayats*. The people as a whole appear to be distinctly better off than villagers elsewhere. Undoubtedly a great deal still remains to be done, but even the little that has been achieved shows clearly the enormous advantage of concentrated effort. The area of work will shortly be extended so as to include 30 villages.

Punjab.—The action taken on this recommendation has already been mentioned in the first report.

Bihar and Orissa.—Several village welfare societies have been started in Orissa and Chota Nagpur Divisions. One society of this type has been organised in Rajmahal area but not yet registered. Most of these societies in Orissa are purely welfare societies and do not give any loans to members but the societies in Chota Nagpur combine village welfare work with ordinary credit activities. The object of these societies is the improvement of village life in all its aspects and some of them have achieved a fair amount of popularity by their activities, *e.g.*, by distribution of medicine, action against epidemics, and the opening of night schools for adults. The Orissa Co-operative Organisation Society was started during the year with a view to establish rural reconstruction centres in different parts of Orissa. It has started work in two centres and succeeded in introducing the cultivation of profitable vegetables, starting classes for adult women and poultry farms.

The Kumarda Public Health and Village Welfare Society of Balasore has appointed a sub-assistant surgeon and started a dispensary and done a good deal of anti-epidemic work. It has also started a night school for adults. This society obtained a grant of Rs. 750 from Government.

A class for training students in co-operation, improved agriculture, cattle-disease and cattle welfare, village sanitation, first aid and scouting was opened at Satyabadi in the Puri district. The district board rendered assistance by lending the services of its district health officer and by granting stipends to twelve students. The students carried out practical rural reconstruction work in a village.

Two public health societies have also been organised in the Banki-Dompura area.

Central Provinces.—The experiment in rural uplift inaugurated in Piparia revenue inspector's circle was continued for another year till 31st March, 1932, and extended to the whole of the Sohagpur *tahsil*.

N.-W. F. Province.—Attention is invited to the remarks in the previous report.

Delhi.—The introduction of improved public health work in March, 1928, still continues. Considerable amount of work was done during the year to improve the general condition of village life.

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER XIV.—The Village—<i>concl'd.</i> 106. Assistance from Universities in work of Rural Development (paragraph 426).	Bombay. —There is an increasing number of these being offered on agricultural and rural subjects by the students of the Bombay University School of Economics and Sociology. The optional subject of agricultural economics attracts a fairly large number of men in the final year of their course in the Poona College of Agriculture. In the year under report, 23 students have taken agricultural economics as their optional subject. Besides, 5 graduates have registered their names for post-graduate studies under the Professor of Agricultural Economics, Poona Agricultural College. Central Provinces. —The Nagpur University has decided to take no action in the matter. Delhi. —The Delhi Health and Social Service Union has endeavoured to interest university students in rural work, but unfortunately this has not met with success. Conditions in the rural area are more favourable as students of Normal Schools are instructed in practical rural health problems.
107. Establishment of Bureaux of Rural Economic Research (paragraph 427).	Madras. —As stated in the previous report, a Board of Economic Research is not considered necessary by the local Government. Bombay. —No action has yet been taken. United Provinces. —A Board of Economic Inquiry was established and is referred to further in item 141. Punjab. —The action taken on this recommendation has already been mentioned in the first report. Central Provinces. —No action has yet been taken. Delhi. —No action has yet been taken.
108. Settlement of Village Disputes by Local Arbitrators (paragraph 431).	Madras. —As stated last year, no action is considered necessary by the local Government. United Provinces. —No special arbitration societies have been formed, but the better-living societies and some of the credit societies have taken up the work. A number of petty cases, which ordinarily would have involved litigation, were decided. Village <i>panchayats</i> numbered 4,998 in 1930-31. The number granted enhanced powers for good work rose from 547 to 592. Bihar and Orissa. —Attention is invited to the remarks in the first report. Assam. —Progress in the reconstitution of the existing village authorities and the organisation of new ones under the Assam Rural Self-Government Act, 1926, has been retarded by Government's inability to depute special officers for the purpose. No new benches and courts can be set up under the Act until the reorganisation of the village authorities is accomplished. Baluchistan. —No action is necessary— <i>vide</i> remarks in the previous report.
CHAPTER XV.—Education. 109. Female Education (paragraph 444).	Madras. —Attention is invited to the remarks in the previous report.

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER XV.—Education—<i>cont'd.</i>	Bombay. —Local authorities are taking steps to spread literacy among women. The educational inspector, Central Division, reports that the value and advantages of spreading literacy amongst women are impressed on the minds of villagers by the inspecting officers during their tours in the district. The district local board, West Khandesh, has collected information showing the educational history of children of cultured families as well as those from illiterate homes and proposes to continue the practice. The educational inspector in Sind remarks as follows:— “The spread of literacy among the women is painfully slow and will continue to be so, unless there is a definite change in the outlook on life. The social and religious prejudices prevent the ordinary man from sending his girls to schools staffed with men, and these prejudices are so strong that no local authority has dared to suggest the introduction of compulsion in the case of girls. Attempts were made last year to keep a record of the history and development of children of literate and illiterate mothers. The figures supplied show that 81 per cent. of the children of the literate mothers were promoted as compared with 69 per cent. of the children of illiterate mothers.” United Provinces. —There is no marked progress to report; an extensive plan of spreading literacy among women requires funds. Co-operative adult schools for women in rural areas have not done well owing to lack of suitable teachers, but co-operative thrift societies for women in towns are making slow but steady progress. A short course training class has been started for women supervisors so that the work can be developed along the right lines. Some 1,600 girls dependent on members of co-operative societies attend primary schools. Bihar and Orissa. —The district boards were requested in March, 1930, to submit concrete proposals for the improvement of female education in their areas. Although three or four district boards have submitted proposals, it has not been possible for Government to finance them for want of funds. The Cuttack district board has made an attempt to encourage co-education in the lower primary schools in small villages and has engaged an itinerant lady teacher for imparting instruction in needlework to teachers in girls' schools. During the year 1930-31, the number of girls at school in the province rose from 1,17,089 to 1,21,051 in spite of a fall in the number of boys at school. Central Provinces. —13 more schools have been opened by local bodies and additional grants amounting to Rs. 6,153 were sanctioned for them in 1931-32. Baluchistan. —Baluchistan is a backward province educationally. The bulk of its population consists of Baluchis, Brahuis and Pathans, who are apathetic if not opposed to female education. In rural areas, girls are admitted to the village primary schools. The few girls' schools existing in the towns though chiefly attended by Indians, have a small percentage of local students. No marked progress in this direction can be recorded. Delhi. —There are 12 girls schools in the rural area; of which 7 are single teacher schools. Total number of girls on roll is 486 or 16 more than last year. There are 20 teachers employed in these schools, of whom 15 are trained. Co-education exists in half a dozen aided schools. There is a Government Normal school for training female teachers. It is located in the city.

Subject (with paragraph of the Report).

Action taken by the Government (or Administration).

CHAPTER XV.—Education—*contd.*

110. Introduction of Compulsory Primary Education (paragraph 445).

Madras.—The proposal to amend the Elementary Education Act so as to take power to enforce the introduction of compulsory education, referred to in the previous report, has been abandoned for the present owing to financial stringency.

Bombay.—Parents in rural areas are generally unwilling on account of domestic difficulties to send their children to school and to keep them there until literacy is attained. It is generally agreed that the progressive adoption of the compulsory system is the only means by which the unwillingness of parents to send children to schools and to keep them there till literacy is attained can be overcome. No progress in this direction is, however, possible owing to the present extreme financial stringency.

Bengal.—Owing to the present financial stringency, it is not possible to introduce the Bengal (Rural) Primary Education Act, 1930, throughout the province, that the question of its partial introduction is under consideration.

United Provinces.—Compulsory primary education for boys was introduced in one municipality during the year, raising the number of municipalities in which the scheme has been wholly or partly introduced from 36 to 37. There is no change to report regarding the introduction of compulsion in rural areas. In view of the present financial stringency the scheme could not be extended to further areas, urban or rural.

Bihar and Orissa.—Attention is invited to the remarks in the previous report. The Government grant for compulsory primary education in the Banki Union was terminated at the end of the year 1930-31 but the district board is continuing the scheme at its own expense.

Central Provinces.—In addition to the progress shown for 1930, four schemes have been sanctioned. Ten schemes in all are under consideration.

Assam.—Attention is invited to the remarks in the previous report. The only sanctioned scheme for compulsory primary education collapsed owing to the slump and to continued hostility on the part of the cess-payers. Other schemes have had to be postponed on account of financial difficulties.

Baluchistan.—The introduction of compulsory primary education has not been found possible in the province.

Delhi.—The compulsory Primary Education Act has been applied to 8 out of a total of 300 villages in the province. It is proving a success on the whole.

Madras.—The general question whether the cost on account of Parents' Societies referred to in the previous report, should be debited to the Elementary Education Funds of local bodies was considered and the local Government have decided that no general sanction need be given but that each case may be considered on its merits.

Bombay.—No co-operative societies have yet taken up the question of adult education. Propaganda work will have to be done to create co-operative societies of the kind contemplated. Adult education is, however, imparted through night schools managed by local authorities and private bodies.

The educational inspector, Northern Division, reports that the Labour Union of Ahmedabad is said to have been trying an experiment for the provision of adult education for its members.

111. Formation of Co-operative Education Societies (paragraph 446).

Subject (with paragraph of the Report).

Action taken by the Government (or Administration).

CHAPTER XV.—Education—*contd.*

112. Improvement of Primary Education (paragraphs 447-448).

United Provinces.—As stated last year, no separate co-operative education societies are required in these provinces; the need for the education of the younger generation is emphasized in credit and better-living societies. Out of about 50,000 sons of members of societies who are of school-going age, 2,500 have passed the fourth standard, 6,000 are in primary classes and 15,000 in preparatory schools.

Punjab.—Adult education societies are, practically, dead and extinct. Compulsory education societies exist, but genuine cases are rare.

Bihar and Orissa.—The question of starting co-operative organisations to promote adult education was considered by the Bihar and Orissa Co-operative Federation, which did not consider it necessary to take any special steps at present. Central banks are already giving the matter their attention but are hampered by lack of funds.

Central Provinces.—The question of forming societies of parents on the lines of those formed in the Punjab is under consideration. One society of this nature has been formed. Some experience of the working of this society will be acquired before trying the experiment elsewhere. A compulsory co-operative education society has been registered at Khavarkheda in Hoshangabad district.

Baluchistan.—The formation of such societies in rural areas is not possible owing to the sparse population and nomadic habits of the tribesmen. In urban areas where the schools are prosperous, they are unnecessary.

Madras.—The local Government have since decided that no action on their part is necessary on the recommendations made in the interim report of the Indian Statutory Commission, referred to in the previous report.

Bombay.—The general demand is for the raising of the percentage of trained teachers laid down in the Primary Education Rule 58. Owing to financial stringency, however, it seems hardly possible to meet this demand.

The Bombay Municipality have opened a training class for their Marathi teachers to make up the deficiency of the trained element in Marathi schools.

Last year's remarks generally hold good. It is not feasible for the present to provide women teachers for small children in boys' schools till the requirements of girls' schools proper are satisfactorily met. As an experimental measure it is proposed to appoint two women teachers in the practising school attached to the Training College for Men, Poona. The experiment is also being tried in the Ahmedabad municipal schools but, the educational inspector remarks, it is not likely to be successful in the villages where social conditions are not favourable. The Chairman, district school board, Panch Mahals, states that an attempt to make a beginning in this direction proved unfortunately abortive.

The suggestion cannot be put into effect for want of funds at the present time. As education expands, the number of one-teacher schools will decrease and when compulsion is enforced the one-teacher school will largely cease to exist. The Chairman, district school board, Satara, remarks as follows:—

"It is not found possible to aim at providing every school with at least two teachers as in most of the schools in rural areas the number of pupils hardly goes beyond 25 or 30. Besides, it will be too costly to engage two hands in such schools unnecessarily. No method of any kind might work successfully, unless the number of pupils in such schools is increased sufficiently justifying thereby the need of two hands."

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER XV.—Education—<i>contd.</i>	In the case of local authority municipalities, there are very few schools which have only one teacher as the number of children in almost all the schools justifies the appointment of at least two teachers in them and the ideal aimed at in this recommendation is satisfied. Primary teachers are generally recruited from amongst people familiar with rural conditions. In fact, most of those who pass the vernacular final examination come from villages and it is those that are taken up as teachers. The present practice of recruitment of teachers for schools in rural areas and their selection for admission to training institutions is in keeping with this recommendation. Bengal.—<i>Vide</i> remarks against item 110. United Provinces.—The curricula for training institutions have been revised and improved by a committee. It is proposed to introduce them from July, 1932. Bihar and Orissa.—As stated in the previous reports, for want of funds the scheme for improving the elementary training schools is still in abeyance. A large number of elementary training schools have had to be closed down. The conference, mentioned in the previous report, has not yet concluded its work. Central Provinces.—The question of the revision of the syllabus of Normal School studies to suit village requirements, which was under consideration, has had to be postponed consequent on the abolition of certain Normal Schools on account of financial stringency. Baluchistan.—Attention is invited to the remarks in the previous report. Delhi.—There is a Government Training School for male teachers which is situated in the rural area. The proportion of untrained staff is being rapidly reduced. Out of a total of 186 male teachers working in the primary schools and departments in the rural area, 168 were trained. During the year, 22 teachers were recruited from the rural area of the province. The total number of primary schools and departments in the rural area is 100. Three new primary schools were started and 5 flourishing primary schools were raised to the lower middle standard during the year. Out of 70 primary schools in the rural area, 61 are still single-teacher schools. Seven primary school buildings and one additional class room were put up. The total population in the rural area is 1,88,829, out of which, at the rate of 7 per cent., there should be 13,218 boys of school-going age. During the year, there were 8,308 boys under instruction, or 1,784 more than last year. Madras.—The local Government had to order the closure of some classes as it was reported that they were not working satisfactorily. In the present financial stringency there is no likelihood of any more classes being subsidized from Provincial funds. Bengal.—The scheme formulated by the Director of Public Instruction, Bengal, which was referred to in the previous report, was shelved after due consideration as the chance of obtaining any funds in the near future was remote.
113. Adult Education (paragraph 449).	

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER XV.—Education—<i>contd.</i>	United Provinces.—Special classes were held for the training of adult school teachers at which 51 candidates were trained. Most of these men, on return to their villages, have tried to start co-operative classes for adults there. As a result, meetings of co-operative adult education societies were attended by officers of the agricultural, co-operative and public health departments, who delivered lectures on subjects of practical utility. Bihar and Orissa.—The Bhagalpur district board has abolished all the night schools in its area as in its opinion they are doing no useful work. The night schools in the Orissa Division have improved and are becoming more popular. Central Provinces.—A scheme of opening 50 adult schools through the agency of the co-operative societies and 50 adult schools by local authorities with the assistance of the education department has had to be postponed from year to year on account of financial stringency. Delhi.—15 night schools were kept running during the year for the benefit of illiterate adults. Madras.—The agricultural middle school at Taliparamba, referred to in the previous report, has since been closed. The school managed by the district board, Madura, still continues. There does not seem to be much demand from the agricultural classes for this sort of education. Bombay.—Out of the 6 vernacular agricultural schools, three schools (Surat, Godhra and Jambul) have already been closed from 1st April, 1931, and one more (Loni School) is to be closed from 1st April, 1932, owing to financial stringency. There remain only 2 agricultural schools (Dhulia in West Khandesh and Devhosur in the Dharwar district). The expenditure on such schools is considerably reduced by reducing the amount of scholarships and by admitting some students without any scholarship. It has been decided to start a new type of an agricultural school on the principle of earning while learning. But the scheme has been postponed for want of funds. There is no agricultural middle school in Sind. The recommendations of the Commission will be considered by the Chief Agricultural Officer in formulating a scheme for agricultural development of the province. United Provinces.—The number of vernacular middle schools to which agricultural classes are attached rose from 33 to 37. Special classes were started for the training of the teachers of these schools in "rural knowledge" at which 158 teachers were trained. This scheme of training the teachers has, however, now had to be held in abeyance on account of financial stringency. An agricultural school of the Bulandshahr type was opened at Gorakhpur. Classes have been opened but full equipment has not yet been provided owing to lack of funds. Punjab.—The action taken on this recommendation has already been mentioned in the previous reports. The number of schools, where teaching of this nature is given, is 150. Each school is equipped either with a small farm or a small garden. Bihar and Orissa.—Good reports continue to be received regarding the agricultural classes at Bikram in Patna and Ballaur in Darbhanga. The experiment at Siddheswarpur in Cuttack has made a good start under the supervision of the department of agriculture. The Shahabad district board has decided to start an agricultural class at the Jitaura middle English school and has selected a site for the purpose. In a few selected primary schools in the district of Ranchi, the forest department has laid down nurseries for a limited experiment in afforestation.
114. Agricultural Middle Schools (paragraphs 456—458).	

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER XV.—Education—<i>contd.</i>	Delhi.—Out of seven middle schools in the rural area, agriculture is being taught in theory and practice only in the vernacular middle school at Palam, which has a well-irrigated farm attached to it. The agricultural teacher in charge is an experienced S. V. trained in agriculture at the Punjab Agricultural College, Lyallpur. Madras.—The matter is still under the consideration of the local Government. United Provinces.—The decision of the local Government in the matter was mentioned in last year's report. Bihar and Orissa.—Attention is invited to the remarks in the first report. Central Provinces.—Attention is invited to the remark in the previous report. Delhi.—Attention is invited to the remarks in the previous report. Madras.—During the year, the Madras Trades School was renamed 'The Government School of Technology' and diplomas of L.M.E. and L.E.E., conferred on the students who successfully completed the Mechanical and Electrical Engineering courses of study. This change has contributed to the raising of the status of the school and in consequence there was a considerable increase in the number of applications for admission. The strength of the school rose from 580 to 815. The preparatory section of the school and the branch school at Perambur continued to function satisfactorily. The Government Industrial Schools at Madura, Bellary and Calicut, which provide instruction in wood working and metal working trades, maintained their popularity and the two latter schools developed satisfactorily during the year. In the Government Trades School, Mangalore, which is run on the lines of the Government School of Technology, Madras, a foundry section was opened during the year to give practical training to the students in moulding. There was no change in the number of recognized schools but the number of aided schools increased from 62 to 64 during the year. The number of pupils receiving instruction in these schools declined from 5,551 to 5,349. A sum of Rs. 1,07,187 was distributed in the form of maintenance grants to these schools representing an increase of Rs. 6,000 over last year's figures and an average of about Rs. 20 per pupil against Rs. 18-3-0 in the previous year. In the School of Arts and Crafts, enamelling on gold and silver was taught to the students of the goldsmith section. In lacquer work, new methods were taught and in the cotton printing section actual printing by means of blocks was started with a view to displacing the costly waxing process. In the Leather Trades Institute, the use of synthetic tannins such as Tannic Medium for use on skins was taken up and standard methods of use suited for various classes of work suggested to tanners with good and uniform results. The special officer continued his investigation into the problem of eradicating stains on skins and hides and the preliminary results obtained showed distinct promise. The Government Textile Institute, Madras, continued to provide instruction in weaving, knitting, dyeing, wool spinning, silk reeling and twisting. The Institute provides two courses of instruction—the supervisor course and the artisan course, besides special courses in certain subjects. A wide and costly range of equipment is necessary for providing a comprehensive training in dyeing, including bleaching and finishing. Equipment of this kind can be made available only in a central
115. Addition of Course in Agriculture to curriculum of High Schools in Rural Areas (paragraph 461).	
116. Technical Education (paragraph 462).	

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER XV.—Education—<i>contd.</i>	institution such as the Madras Textile Institute and scholarships are made available to <i>mufassal</i> candidates undergoing training in the Institute. In addition to the training provided in the institute, the weaving demonstration parties were engaged in demonstrating improved appliances such as hand sizing machine, <i>paquards</i> and <i>dobbies</i>, while the dyeing party demonstrated <i>aerograph</i> printing and improved methods of dyeing in various places. During the year 1930-31, the aided textile schools were placed under the control of the Assistant Director of Industries (Textiles), the courses of instruction in them were reorganized and a standard syllabus for weaving and dyeing were prescribed for adoption by the schools with a view to correlating the training given to the practical needs of the country. A syllabus for lace-making and other needle crafts is now being drawn up for the benefit of the girls' schools providing instruction in these subjects. The Kerala Soap Institute continues to provide instruction in modern methods of soap making and as a result of the instruction thus afforded the number of private soap factories, most of which are conducted on a very small scale, is increasing. United Provinces.—The Oil Department of the Harcourt Butler Technological Institute, Cawnpore, gave all the assistance asked for by established factories and persons desirous of starting new factories. Six oil technologists were trained of whom three secured employment. An ex-student of the department started a small concern for the manufacture of boiled oils, disinfectants, etc. The department also assisted a local oil mill to add a soap plant, with a capacity of 50 tons a month, to their oil factory. A student of the Leather Technology Department gained the Institute's diploma and is employed in the Government Harness and Saddlery Factory, Cawnpore. The weaving, carpentry and leather working schools offered every facility for training to boys of the urban and rural areas. Weaving school demonstration parties visited several places and demonstrated the use of fly shuttle looms. The Government Technical School, Lucknow, continued to give training in oil engine driving and during the year started a class for small machine work as well. The Headmaster of the Tanning School, Fatehpur, approached the local tanners on several occasions and instructed them in the best methods of tanning and curing hides. Defects in their methods were pointed out and suitable modern scientific methods were explained. A small scale sugar making plant of the most modern type capable of crushing one ton of cane per hour has been ordered for the Harcourt Butler Technological Institute. Bihar and Orissa.—The action taken on these recommendations has already been mentioned in the first report. Madras.—Attention is invited to the remarks in the first report. Bombay.—In the Presidency, no action has been taken, but the policy in regard to agricultural education is being reviewed. There is no agricultural college in Sind. Scholarships at the Poona agricultural college are awarded to suitable Sindhi students annually by the Commissioner in Sind. The question of sending students to the Lyallpur agricultural college from Sind is receiving the attention of the Chief Agricultural Officer in Sind. United Provinces.—There is no change to report. A committee has been appointed to examine the working of the agricultural college, Cawnpore, and to make recommendations regarding its future.
117. Qualifications for admission to Agricultural Colleges (paragraph 471).	

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER XV—Education—<i>contd.</i>	
	Punjab.—The action taken on this recommendation has already been mentioned in the previous reports. Burma.—A proposal to make the agricultural college a constituent college of the Rangoon University with the intermediate Examination in Science as the standard of entrance is still under consideration. If this can be accomplished, a two years' course is proposed instead of the three years' course recommended by the Commission. It is considered that as the number of students is comparatively small the teaching can be made intensive enough for the course to be finished in two years. Bihar and Orissa.—Attention is invited to the remarks in the first report. Central Provinces.—The proposal regarding the fixation of Intermediate Science as standard for admission into the agricultural college, Nagpur, has been dropped by Government. Madras.—The curriculum of the agricultural college has since been revised by the University of Madras. Bombay.—Agricultural economics and farm management are taught at the Poona agricultural college. Some agricultural graduates are also studying for the degree of M.Ag. with agricultural economics as their optional subject. An officer of the agricultural department, who was sent to England for receiving further training in agricultural economics, is expected to finish his course in September, 1932. United Provinces.—No further improvements could be effected on account of financial stringency. Burma.—The local Government do not consider that any action is required for the present on this recommendation as agricultural economics is an item of the course of study on agriculture in the agricultural college and the professor of agriculture can manage to impart such knowledge on the subject as is at present required with the help of his existing staff. Bihar and Orissa.—As stated in the first report, this recommendation will be considered when the detailed scheme for an agricultural college is prepared. Central Provinces.—The action taken on this recommendation has already been mentioned in the first report. Bombay.—The short course at the college of agriculture has been abolished as it has never been popular. Special classes lasting for a week or ten days for cultivators on well-defined subjects like horticulture and irrigation agriculture are proving very successful. United Provinces.—Short courses in agriculture are given at the Bulandshahr and Gorakhpur schools. Central Provinces.—The action taken on this recommendation has already been mentioned in the previous report.
118. Teaching of Agricultural Economics and Farm Management at Agricultural Colleges (paragraph 472).	
119. Revision of Short Courses given at certain Agricultural Colleges (paragraphs 473-474).	

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER XV—Education—<i>concl'd.</i>	
120. The Mandalay Agricultural College in Burma (paragraph 475).	Burma.—No part of the buildings of the Mandalay agricultural college main building has been diverted to any other use than the teaching of agriculture and agricultural research. The question of making the agricultural college, Mandalay, a constituent college of the University of Rangoon has been revived and is at present under the consideration of Government. Madras.—It has been decided to allow passed students to work on research stations to obtain practical experience. Bombay.—The course in practical agricultural work given at the agricultural college, Poona, aims at this object. In addition to this, the necessary facilities in this connection already exist in the Presidency at Jalgaon where cotton, wheat and jowar are the main crops. The new auxiliary farms established in the Barrage areas of Sind will be utilised for this purpose provided that a demand for such training on the part of agricultural graduates is forthcoming. United Provinces.—Facilities are to some extent provided on departmental farms. Central Provinces.—Facilities on the lines indicated already exist. Bombay.—The question of the appointment of a full-time Principal of the Poona agricultural college has been dropped for the present owing to financial stringency. The other recommendations are receiving attention and care is also being taken, in making direct appointments, to select distinguished graduates in science of Indian, American and British Universities. In Sind, these recommendations will receive consideration in any scheme for agricultural development there. United Provinces.—The re-organization of the agricultural college, Cawnpore, will depend on the nature of the recommendations of the committee, referred to in item 117 above. Bihar and Orissa.—The action taken on these recommendations has already been mentioned in the first report. Bombay.—The B. Ag. degree has been placed on the same level as a degree in Arts or Science in making appointments in other departments. United Provinces.—No posts are reserved in other departments for passed students of the agricultural college, Cawnpore, but the consideration is given to their claims when appointments are made. Punjab.—The action taken on this recommendation has already been mentioned in the previous report. Burma.—The matter is still under consideration. Central Provinces.—No definite policy has yet been declared. Bihar and Orissa.—Attention is invited to the remarks in the previous report.
121. Provision of Facilities to enable Passed Students of Agricultural Colleges to obtain Practical Experience (paragraph 476).	
122. Organization of Agricultural Colleges (paragraphs 477-479).	
123. Openings for Passed Students of Agricultural Colleges in other departments (paragraph 481).	
124. Agricultural Colleges for Bengal and Bihar and Orissa (paragraph 482).	

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER XVI.—Rural Industries and Labour.	
125. Government Assistance in developing Manufacture of Agricultural Implements and in training Village Artisans to manage and repair improved types of Machinery (paragraphs 491 and 494).	Madras.—Attention is invited to the remarks in the previous report. Bombay.—In the Presidency, no action has yet been taken, but the agricultural engineer was in close touch with the Cooper Engineering Works, Satara, until his post was held in abeyance. This firm is prepared to manufacture implements in accordance with designs certified by the agricultural engineer. Action is also being taken to encourage village artisans to manufacture simple articles like cotton uprooters and water-lifts. In Sind, no action has yet been taken, but the agricultural department is in close touch with firms which manufacture agricultural implements and encourage local mistries (artisans) in the production and sale of simple improved types of ploughs, water-lifts' etc. United Provinces.—A grant was made by the industries department to the Singh Engineering Company, Cawnpore, for the manufacture of Meston ploughs. Samples of all the Meston ploughs manufactured in the country were obtained and are still under test. Arrangements were also made to test the sugar centrifugals manufactured by a firm in Calcutta. The training of village artisans in the repair of machinery has not made much progress. Punjab.—The action taken on this recommendation has already been mentioned in the previous reports. Burma.—Considerable progress has been made with the casting of plough shares on the model designed by the agricultural department, i.e., the share known as the Theikpan plough. Several thousands of these shares were cast during the year in the Yamethin, Meiktila and Mandalay districts by local artisans. Owing to financial stringency it has not yet been possible to institute short courses in the training of artisans in the management and repairs of improved type of implements and machinery but at the two form schools at Mahlaing and Hmawbi, ordinary cultivators are trained in the construction of simple improved implements. Bihar and Orissa.—The improved artisan training scheme, referred to in the previous reports, continued to work satisfactorily in all the four Government technical institutions at Patna, Muzaffarpur, Ranchi and Cuttack. The grant-in-aid given to the carpentry school at Kathikund had subsequently to be withdrawn from August, 1931. Central Provinces.—Attention is invited to the remarks in the previous report. Delhi.—A study of the conditions in rural Delhi reveals that the provision of technical education is the fundamental means by which the village industries can hold their own in the intensive competition of modern times and organisation and development of new industries can receive the desired stimulus. The manufacture of agricultural implements seems to offer some promise and suitable youths of the rural classes can be encouraged by the grant of stipends to attend local workshops with a view to employment in factories or, if they can find capital, to start manufacture themselves. The provision of stipends for the purpose is under consideration in connection with the five years' programme. Madras.—The officer deputed for training in poultry work at Lucknow has returned. He is now reorganizing the section and the regular propaganda work will start in the coming year. Bombay.—Imported poultry keeping is taking on rapidly in the Presidency and the use of European breeds is spreading. In Sind, no action has yet been taken, but a programme of work towards the development of a local poultry industry and the improvement of local breeds of poultry has been drawn up.
126. Development of Poultry Industry (paragraph 497).	

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).																																																						
CHAPTER XVI.—Rural Industries and Labour—contd.																																																							
	United Provinces.—The question of the sale of eggs has been taken up seriously in three places and four co-operative societies were registered for the purpose, but they were not able to start work during the year. A consignment of eggs was, however, sent to the hills in the summer as an experiment and fetched a good price. Punjab.—The action taken on this recommendation has already been mentioned in the previous reports. Bihar and Orissa.—Owing to an outbreak of chickenpox at the poultry farm at Kanke, referred to in the previous report, fresh birds had to be purchased from Lucknow to replenish the stock. Assam.—An experiment on poultry breeding with two breeds is in progress on a small scale at the Upper Shillong farm, as stated in the previous report. Delhi.—There are opportunities for the development of a poultry industry in this province as there is a growing local demand for eggs and other poultry products. The imports into Delhi during 1931, stood at approximately 3,514 mds., of eggs alone. The chief requirement is to provide for the grant of stipends to suitable rural youths to enable them to acquire necessary training at a recognised poultry farm. The matter is receiving attention in connection with the preparation of five years' programme of industrial and technical education in the province. Madras.—At present the following societies are helping the artisan classes in the villages:— <table><tr><td>(1) Coir workers</td><td>..</td><td>..</td><td>..</td><td>..</td><td>10</td></tr><tr><td>(2) Weavers</td><td>..</td><td>..</td><td>..</td><td>..</td><td>132</td></tr><tr><td>(3) Cottage industries</td><td>..</td><td>..</td><td>..</td><td>..</td><td>1</td></tr><tr><td>(4) Basket makers</td><td>..</td><td>..</td><td>..</td><td>..</td><td>3</td></tr><tr><td>(5) Mat makers</td><td>..</td><td>..</td><td>..</td><td>..</td><td>2</td></tr><tr><td>(6) Match works</td><td>..</td><td>..</td><td>..</td><td>..</td><td>1</td></tr><tr><td>(7) Bell and brass metal workers</td><td>..</td><td>..</td><td>..</td><td>..</td><td>2</td></tr><tr><td>(8) Labour contract</td><td>..</td><td>..</td><td>..</td><td>..</td><td>43</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td> 194</td></tr></table> These societies have not been very successful and several of them have to be closed. The special co-operative inspector sanctioned for the development of kora mat industry in Malabar worked till October, 1931, when the sanction expired. His services were very useful to the society. Owing to financial stringency it was not possible to continue the appointment. United Provinces.—It has been noticed on several occasions that village artisans are not willing to form co-operative societies unless provision for the sale of their finished products is made. Efforts were, however, made to develop such societies. In one district where the weaving industry is well advanced, three new societies were formed. Goods worth Rs. 3,000 were manufactured by them. The production of bed sheets and dhotis on broad fly-shuttle looms is being encouraged and some looms were awarded as prizes by way of encouragement. In two other districts, the number of fly-shuttle looms increased appreciably in villages when the price of handspun and hand-woven cloth went up but as prices have now dropped, many of them are idle. The wool carding and spinning plant at the Government Textile School, Cawnpore, has been lent to the Najibabad Blanket Weavers Co-operative Society. It has been set up and is being worked. The Board of Industries made a substantial grant to the society, but it also had to spend a good deal of its own money. The Oel Society of Brass Workers did not flourish on account of trade depression and internal dissensions.	(1) Coir workers	..	..	..	..	10	(2) Weavers	..	..	..	..	132	(3) Cottage industries	..	..	..	..	1	(4) Basket makers	..	..	..	..	3	(5) Mat makers	..	..	..	..	2	(6) Match works	..	..	..	..	1	(7) Bell and brass metal workers	..	..	..	..	2	(8) Labour contract	..	..	..	..	43						194
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127. Organization of Village Artisans on a Co-operative basis (paragraph 501).																																																							

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER XVI.—Rural Industries and Labour—contd.	The Board of Industries made a grant of Rs. 3,000 to the Nagina Glass Workers' Co-operative Society. A Japanese furnace has been set up and phials and bottles are being manufactured. The society is working on cottage industry lines.
	The Jaitra-Dhampur Leather Workers' Co-operative Society now tans leather on improved lines and has made good progress. The members have now learnt how to tan sheep skin suitable for book binding purposes. Improvements in technical tanning processes have also been effected in two other societies.
	Bihar and Orissa.—The <i>purdah</i>-weaving society, referred to in the previous report, manufactured goods worth Rs. 13,000 and earned a profit of about Rs. 2,000 on a capital of only Rs. 2,500. Its activities are, however, suspended for the present on account of mismanagement and an effort is being made to reorganise the work. The <i>purdah</i>-manufacturing section of the Cottage Industries Institute continued to work well and the London agent sold goods worth Rs. 89,125 during the year.
	Central Provinces.—Attention is invited to the remark in the first report. No further progress has been made.
	Assam.—Steps have been taken to organise silk rearers and weaving societies. One of the latter class has already been registered.
128. Government Assistance to Industry (paragraph 504).	Madras.—Steps are being taken by the industries department with a view to the development of small scale and cottage industries such as rice hulling, oil milling, button manufacture, <i>chank</i> (shell) cutting, pottery manufacture and palmyra industry.
	Oil milling.—Reference was made in the last report to the evolution of the power driven <i>Pinto chekku</i>. The <i>chekku</i> has been demonstrated to be equally suitable for crushing castor seed. Castor crushing by this <i>chekku</i> was demonstrated in Urvakonda for the benefit of the oil-mongers and arrangements are in progress to carry out a demonstration in Cocanada also.
	Button making.—A small treadle machine for the manufacture of buttons by hand power was evolved and constructed in the workshops and its working demonstrated in Samalkot and Parlakimedi. The department took over the management of a large button factory in Madras at the request of the management, put it in working condition and after successfully demonstrating the manufacture of buttons, handed it back to the owner.
	Chank (shell) cutting.—A small <i>chank</i> cutting machine was devised and manufactured and its working demonstrated in the midst of <i>chank</i> workers in the Ramnad district for the benefit of the <i>chank</i> industry.
	Ceramic industry.—A survey of the ceramic possibilities of the Presidency has been instituted as a preliminary to the development of the ceramic industry. The special officer appointed for the purpose has practically completed the survey of the Presidency. The working of an improved potter's wheel was demonstrated for the benefit of potters in certain select places. Practical assistance was rendered to a gentleman in the erection of a ceramic test kiln for the manufacture of porcelain goods. In order to develop the clay model industry of Panruti an educated potter boy was admitted in the School of Arts and Crafts, Madras, and given instruction in clay modelling on scientific lines.
	Palmyra industry.—The question of introducing in Cuddapah district various industries connected with palmyra such as basket-making, mat-making, manufacture of jaggery, etc., has been taken up.
	The development of sericulture, cashewnut industry, power sugar-cane crushing and the prospects of bone crushing in the villages were studied during the year under review and the progress made in these directions will be recorded in the next report.

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER XVI.—Rural Industries and Labour—contd.	State Aid to Industries Act.—It is difficult to assist agricultural industries financially under the State Aid to Industries Act as industries, such as, rice milling and cotton ginning, are not new or nascent industries within the meaning of the Act. If individual ryots wish to prepare their own agricultural products for the market by the use of machinery, however, loans will be granted to them under the Special Loan Rules framed under the <i>Takkavi</i> Act.
	The following loans were granted under the State Aid to Industries Act during the year to concerns whose activities bear some relation to agriculture:—
	(1) Loan of Rs. 8,000 to Messrs. The Shoranur Metal Industries, Shoranur, for the development of manufacture of edge tools and implements used in agriculture and in plantations. (2) Loan of Rs. 40,000 to Messrs. Boddu Pydenna Sons, Vizianagram, mill owners, for the purpose of developing their oil milling business.
	United Provinces.—As a result of the assistance given by the Sugar Technologist to the Imperial Council of Agricultural Research, a number of new sugar-making factories are being started in the province. Experiments were also made by him in connection with the various indigenous methods of making sugar, and the results thereof have been separately published.
	Experiments were undertaken at the Harcourt Butler Technological Institute in the following subjects:—
	(1) Large scale experiments on economic methods of crushing <i>necm</i> seed in oil expellers. (2) Drying of glue liquor in air was studied quantitatively with a view to obtaining an improved product in a shorter period than is at present obtained by the indigenous glue makers. (3) Experiments were made in an endeavour to find an economical use for water hyacinth. (4) The use of synthetic enzymes in the tanning industry. Experiments are in progress with a view to starting this new industry. (5) A study is being made to see if the manufacture of half-tans of saleable quality for foreign markets, using only local tanning materials, is possible. Work on other experiments in hand continued.
	A committee of officials and non-officials was appointed to consider the possibilities of developing the oil crushing industry.
	Central Provinces.—The State Aid to Industries Bill, referred to in the previous report, was not introduced for want of requisite sanction. The Government of India's sanction has since been received and presumably the Bill will be introduced in the August session, 1932. In view of this the local Government have decided not to proceed with the official bill.
129. Qualifications of Directors of Industries (paragraph 505).	Madras.—A member of the Indian Civil Service has been appointed to the post of Director of Industries.
	United Provinces.—The post was held by members of the Indian Civil Service throughout the year.
130. Encouragement of Migration (paragraph 509).	United Provinces.—The Report of the Royal Commission on Labour has been published and the Commission's recommendations are being considered by the Government of India in consultation with local Governments. No action in the direction suggested in this recommendation has so far been taken.

Subject (with paragraph of the Report).	Action taken by the Government (or Administration).
CHAPTER XVI.—Rural Industries and Labour—concl'd.	Central Provinces.—The experiment of free recruiting introduced temporarily in the districts of Jubbulpore and Saugor has been extended for a further period till the 15th May, 1932. Delhi.—The future possibilities of increased employment seem to lie amongst others in the popularisation of home industries and development of rural and secondary occupation for the village worker and introduction of new industries and development of fruit, flower and vegetable production. Efforts were made by the Industrial Surveyor's Office to provide rural workers, on request, to work in local industrial enterprise as much as possible. The seasonal occupations in Delhi also constitute a popular agency for part-time employment. Besides providing the migrant with subsistence for part of the year and enabling him to return to his village with small cash reserve, this seasonal migration is considered to be of great importance in inculcating new ideas into the country side.
CHAPTER XVII.—Horticulture and Plantations. 131. Development of the Cultivation of Fruit and Vegetables with special reference to Picking, Packing, Transport and the use of suitable Containers, the establishment of Regulated Markets and improvement of Marketing Conditions generally (paragraphs 514—517).	Bombay.—The improvement of local fruits such as guava, pomegranates and grapes by selection has been the chief work in hand for the last few years. The selected strains are now bearing fruit. They mark a great improvement in quality over the strains at present in cultivation. The distribution of the improved strains is in hand. The work regarding grading and packing of mango fruit is nearly completed. The economic value of grading mango fruits is being explained to the mango growers by all possible means. The value of suitable containers and the method of packing graded mango fruits for export to Europe are also being explained to the business men as well as the interested mango growers. The system of marketing fruits and vegetables in the Bombay Presidency has been studied. The attention of the public as well as of Government has been drawn to the suggested improvements. It is expected that early steps will be taken to improve the situation. The improvement of vegetables such as chillies and brinjals by selection is in hand. Useful work is being done in this direction in the Ganeshkhind Botanical Gardens with the aid of a grant from the Sir Sassoon David Trust Fund. The research scheme for the investigation of the problems connected with the export of mangoes to overseas markets, referred to in the last report, was not submitted to the Imperial Council of Agricultural Research in view of the fact that Dr. Cheema, Horticulturist to Government, secured an Empire Marketing Board Scholarship and proceeded to England on study leave, and it was thought possible that he would return with new ideas which would lead to the modification of the scheme. Dr. Cheema has since returned to India and a modified scheme of work in the cold storage of mango fruits has been submitted by him to the Empire Marketing Board direct. The matter will receive further attention. In Sind, the work at the Fruit Farm, Mirpurkhas, on the management of commercial plantations, production of reliable fruit stock and the training of skilled <i>malis</i> (gardeners) has been intensified and systematised. Research work on the economics of vegetable production in the Barrage areas is being carried out at the Agricultural Research Station, Sakrand. A beginning has been made at Mirpurkhas with investigations into the possibilities of drying fruits, <i>e.g.</i>, dates, raisins, etc., and their marketing at suitable centres. United Provinces.—In addition to the advice given by the garden circle staff in the past on fruit and vegetable cultivation, personal visits have been paid to gardens and advice given on the spot. Twenty-three gardens were so visited. No other work was possible during the year. A scheme for research in fruit culture has been submitted for the consideration of the Imperial Council of Agricultural Research. Punjab.—The action taken on this recommendation has already been mentioned in the first report.

