

the College with a satisfactory equipment of knowledge, the numbers passing through the College are insufficient. It seems doubtful whether all require the same training. If you are drawn into an attractive, but difficult field of vernacular education, I would only say that it is necessary to keep local conditions well in mind. This subject of education ought to be approached with greater confidence than on earlier occasions, on account of the experience you possess.

Dairying is a wide and difficult problem. An inquiry into the methods of dairying in Madras city elicited the reply from one dairy man that "he bought his milk from the milkmaids of Madras and worked it up on scientific principles". I do not like to try to imagine what strange process was necessary after "the milkmaids of Madras" had finished with the milk. Local officers will, I am sure, be very glad to show you anything of their work here or in the District, or of local agricultural practices, and would be very pleased after the meetings are over to take any of you who may so desire it to any of the local farms. The Planters' Association has very kindly offered to show you some South Indian estates, if any care to see them, of tea, coffee or rubber.

I hope to have the pleasure of seeing many of you personally during the course of this week and meanwhile trust that you will find your discussions both pleasant and profitable." (*Cheers*).

### **Progress of Agriculture in India A—Review**

MR. J. MCKENNA.

Mr. J. McKenna, I. C. S., Officiating Agricultural Adviser to the Government of India, in his opening speech, welcomed the many members and visitors.

He said :—"My first duty is the pleasing one of expressing our thanks to the Government of Madras for so kindly extending their hospitality to us, and to the Hon'ble Sir John Atkinson, for the gracious terms in which he has proffered that hospitality. My next is to express what I am sure is the general regret that H. E. the Governor is unavoidably unable to be present at any of the

meetings. Those of us who know what Lord Pentland did as Secretary of State for Scotland for the development of agriculture in that country, will, I am sure, understand, that it is only the most pressing necessity that prevented His Excellency from giving attendance to our meetings, and I am sure it is as much a matter of regret to him as it is to us that he cannot be with us. Amongst many distinguished visitors who are attending our meetings, I would, in particular, welcome the Hon'ble Sir Robert Carlyle, the Hon'ble Sir John Atkinson and the Hon'ble Sir Alfred Bourne, by whose ripe experience as an educationalist we hope to benefit."

#### IMPORTANT CHANGES.

Referring to the many important changes which had taken place since the last Meeting of the Board, Mr. McKenna said:— "In April, 1912, the post of Inspector-General of Agriculture in India was abolished and the new appointment of Agricultural Adviser to the Government of India was combined with that of Director of the Pusa Research Institute. The services of Mr. Coventry, our Agricultural Adviser, who, you will be all glad to hear, will be back at the end of February, received high recognition when in June 1912, he was appointed Companion of the Indian Empire. As a further distinction conferred upon the Department, I have to record the bestowal of the Kaiser-I-Hind Gold Medal on that distinguished lady worker, Mrs. Howard, whose absence from our Meetings on account of ill-health we all regret. In December, 1912, the Department suffered a heavy loss, by the resignation of Mr. H. M. Lefroy, Imperial Entomologist. Mr. Lefroy was an enthusiast in his subject, who added to remarkable energy in original research due appreciation of the economic importance of his subject, and his work has left a marked impression on the country and has materially enhanced the reputation of the Agricultural Department.

#### THE SUPERIOR STAFF.

Since the last meeting there has been considerable expansion of our superior staff. Territorial redistribution in Bengal has been followed by the creation of a Department of Agriculture in Assam

and the distribution of the existing staff amongst the three Provinces as reconstituted. This has necessitated the recruitment of another agricultural Chemist. Dr. Barber has been appointed Sugar Expert, with headquarters at Coimbatore. Mr. Hulme has been appointed Sugar Engineer in the United Provinces. The post of Entomologist has been added to the cadre of the Madras Department, which has also been strengthened by the addition of a Third Deputy Director and an Assistant Botanist has been appointed in the United Provinces. A Third Deputy Director and an Assistant Director of Agriculture have been sanctioned for the Central Provinces, a Second Deputy Director of Agriculture for Behar and the Punjab, while further additions to the staff are under consideration for Bengal, the Punjab, the United Provinces, Bombay and Behar and Orissa.

Finally, Agricultural Engineers have been added to the staff in Bombay, the United Provinces and the Punjab."

#### RECOMMENDATIONS OF THE BOARD.

Before introducing the programme for discussion at the present Board, Mr. McKenna reviewed the action which has been taken on the Resolutions of the last Meeting of the Board. He said :—The Government of India accepted the Resolution of the Board that future Meetings should be held in one of the Provinces and at Pusa, and, consequently, we are now meeting in the Madras Presidency. The Government of India have also accepted the recommendation of the Board that honorary degrees of L. Ag. should not be conferred and decided that such degrees should be awarded only to those who had gone through the prescribed three years' curriculum in an Agricultural College. I regret that up to the present it has not been possible to give effect to the Resolution of the Board that the relative feeding value of food stuffs and fodder for cattle should be made the subject of an early study at Pusa. The subject in all its aspects will come up again for consideration this year and I hope that some practical working scheme will be evolved.

### COTTON CULTIVATION.

The important subject of cotton investigation in India bulked largely in the proceedings of the last Board, the able note on the subject by Mr. Coventry being taken as the basis of discussion. The general principles laid down in this note were endorsed by the Board and as a result extension and improvement of cotton cultivation in India, on the main lines indicated in the Report on the progress of agriculture in India for 1911-12, have continued to engage the chief attention and time of the Agricultural Department in all the provinces where cotton is a crop of importance. The staff of the Deputy Directors is being increased. Unremitting attention is being paid to the selection of seed and the demonstration of improved methods of cultivation. The maintenance and distribution of seeds of improved varieties, the evolution of new types by plant breeding and other processes of seed farms, are being multiplied and every possible inducement is being given to cultivators to grow improved varieties.

In this connection the speaker referred to the visit to the Board of Mr. Arno Schmidt, the energetic Secretary of the International Federation of Master Cotton Spinners and Manufacturers' Associations."

### INDIAN SUGAR.

Speaking of Indian sugar, he said :—The recommendation made by the Sub-Committee which dealt with this subject have formed an excellent guide for Local Governments and Administrations in framing their policy. Much attention has been devoted to this crop during the past two years and the progress made in each Province will, I have no doubt, be fully recorded by the Sub-Committee which will this year deal again with the subject in directing the attention of the Conference.

### AGRICULTURE AND CO-OPERATION.

Continuing, he said :—The Board will be able to lay down with some measure of definiteness the lines upon which the agricultural and co-operative movements can be linked together. Co-operation even in India is not solely dependent upon agriculture for its energies. There are many trades and industries to the

assistance of which its efforts could be suitably directed. But the population of India is preponderatingly agricultural and the force of circumstances and environment has naturally directed co-operative effort first to agriculture. In a land of small holdings like India, it is practically the only means by which scientific agriculture can be made possible and it, therefore, is the duty of an Agricultural Department to see how it can best utilise this great aid, which has been placed to its hand.

#### VETERINARY SCIENCE.

For the first time in the history of the Board, we welcome our colleagues of the Civil Veterinary Department. The subjects which we offer for their consideration are general, being concerned with problems that are common to both Departments and, in a large and mixed Board like this, it is difficult to do otherwise. At future Meetings of the Board, it may be possible to include one or two subjects of far more technical interest which can be discussed by Veterinary Officers themselves. But two, which we have selected for discussion this year, are practical problems which concern both branches of the service, and in which both parties can co-operate for their mutual benefit.

#### THE RICE CROP.

To certain Provinces of India rice crop is one of first importance. In Burma it is the greatest export crop, no less than 2,500,000 tons being annually exported to Bengal, Madras, the Central Provinces and parts of Behar and Orissa. It forms the food crop of the great bulk of the population. It will, perhaps, be impossible to get, from the discussion of the crop, such precise conclusions as we have in the past been able to promulgate with reference to such crops as cotton, wheat or tobacco. But there is a general feeling that the crop should sooner or later be considered and the meeting of the Board in one of the great rice growing Provinces seemed a suitable occasion for opening the subject.

#### AGRICULTURAL EDUCATION.

Perhaps the most important subject, which will engage the attention of the Board, is the question of agricultural education.

This question has engaged the anxious attention of the Department ever since its initiation. We have also had some successes, but we must, I am afraid, admit that we have also had some failures, and just as a good business man does not shirk the task of taking stock, even though he may have a feeling that all is not well, so it is but right that we should now, after our few years' experience, review the situation and see whether our policy is built on a sound foundation or not. I hope for a very full expression of opinions of the Board on this most important subject and trust that the result of our deliberations will be to amend what has been found to be wrong and to reconstruct our policy of agricultural education, if necessary, on a sound and firm basis.

#### THE DAIRY INDUSTRY.

Dealing with the dairying industry of India, the President said :—“ Supply of a plentiful quantity of good pure milk is one which is engaging to a very great extent the attention of the Municipal and medical authorities. Dealing as we do with the cattle of India, we cannot get away from the fact that the responsibility for the provision of such supply rests more or less with us. It is not improbable that the results of our deliberations will be to show that the first necessity is the provision of an adequate supply. Till this is forthcoming, it would, perhaps, be premature to enter into much detail as to the scientific aspect such as bacteriological questions, of ghee and butter manufacture”.

#### OTHER SUBJECTS.

The President also referred to soil denudation, rainfall and drainage and the conservation of soil moisture.

In this connection he said :—I am extremely sorry that Mr. Howard, who devoted a portion of his recent leave to the investigation of this subject in Italy, is unable, owing to Mrs. Howard's illness, to be present at this discussion. He has, however, sent an opening note, which will form the basis for discussion. On the last subject on the programme, FRUIT CULTURE in various provinces, he referred to the great amount of success both in the growth and packing of fruit and in transportation and other busi-

ness arrangements connected with the industry, that had been achieved by Mr. Howard in Quetta, and also by Mr. Robertson Brown at Peshawar.

#### CONCLUSION.

In conclusion, he referred to the progress made during the nine years since the first Meeting of the Conference at Pusa, which he said, had been more than mere numerical progress. There had been progress in education and co-operation on both sides. "On our part we have got beyond the stage of considering that the East had nothing to teach the West. We have learned that we have to deal with agricultural practice which is built on the traditional custom of years and in which reside, though unexpressed and unexplained, deep scientific principles, the reasons for which are only gradually being elucidated. We have found that the only way to progress is sympathetic appreciation of local conditions, based on an accurate study of indigenous methods, for which a good knowledge of the language is essential and also sympathetic co-operation with the cultivator. Unless we have the sympathy and co-operation of the cultivator, we can do nothing. Compulsion and force are absolutely opposed to the idea of agricultural development. The adoption of the methods we recommend is a purely optional matter. The cultivator need not take them up, unless he wants to, and he certainly will not do so unless he is firmly convinced that they are better than his own. Fortunately, we have been able in many cases to persuade him that the days of suspicion and mistrust are gradually passing away, and with the cordial and increasing co-operation of the cultivator, I think we may say that we have really begun to effect something.

Simultaneously with the development of our mutual understanding of each other, that great factor in all schemes of economic development, the co-operative credit movement, has been gaining in strength. It provides a lever which lifts the small man out of his narrow and restricted environment, and enables him, by the power of combination, to throw off the disabilities of his restricted village commerce, and to enter on more equal terms into the business of wider market places of the world. It is most opportune that

the movement should have gained ground in India simultaneously with the forward movement in agricultural research. It is one great factor which brings the adoption of the most approved methods, expensive though they may be, within the reach of the small cultivator, who is the backbone of the agricultural wealth of India. Particularly fortunate and happy are those who, like the members of the Indian Agricultural Service, can take a share, however humble, in the economic development of this great Empire, for a contented rural population means a satisfied and peace-abiding nation. Yours it is in particular measure to work in peaceful harmony and trust with the people amongst whom you are placed. No suspicion or mistrust arises as to the integrity and honesty of your intention. You are working with the people for the people for the people's good. You are now ploughing no lonely furrow. The numbers of your fellow-workers are daily increasing and if sympathy and co-operation are the key notes of your action, then when you come to lay down the plough at the termination of your career in India, you can lay it down and leave the country with at least the gratifying testimony of a good conscience. (*Cheers*).

SIR ROBERT CARLYLE

The Hon'ble Sir ROBERT CARLYLE, addressing the members and visitors of the Board, at the conclusion of the last day's meeting said:—

I feel that it has been a great privilege to have been able to attend some of your meetings, and I only regret that I was unable to be present throughout. A good deal of what I had in my mind to say has already been well put to you by Mr. McKenna and by Dr. Mann in the Report of his Sub-Committee and in his speech, but the matter is so important that I venture again to address you on the subject of the close connection which ought to exist between the Co-operative movement and the progress of agriculture. Looking back on the state of things in this country when Lord Curzon started the Agricultural Department in its present form the progress made is remarkable. Work of great value has been done on some of the most important crops grown in India, and we are already beginning to see the results. The Department



has in many places got into close touch with the cultivator, and has succeeded in inducing him to look to it for guidance and help. Great as has been the advance already made, we are only at the commencement, and if the progress is to be as rapid and as secure as we all desire, we must work in close touch with the Co-operative movement. The two Departments must join force to obtain the best results. In the case of the Co-operative Department, union is necessary to enable co-operation to rise to the height of its great task of raising the economic status of the people, and in the case of the Agricultural Department it will, unaided, make comparatively slow and halting work in its propaganda of agricultural improvements.

While I would welcome, as time goes on, a large increase in the *personnel* of the Department, and while I have no doubt that many Local Governments will very soon require considerable additions to their agricultural staff, it is obviously desirable to make any staff appointed by the Government go as far as possible. Co-operative Societies should afford us an admirable non-official agency which could be guided on right lines by a comparatively small supervising staff. The primary object of the Agricultural Department is to enable the cultivator to produce larger or more profitable crops. There are many different ways in which this object has to be pursued, but one of the most important means of bringing about the desired result is to establish numerous seed farms for the production of improved seed. For this purpose Co-operative Societies would seem to be well adapted. Independently, moreover, of the work done in direct co-operation with the Agricultural Department, there are other directions in which co-operation has to supplement the work of the Department. For instance, it is not always enough to teach the agriculturist the use of the new or improved implements or the value of manures for his land, but we have to help him to get what is wanted as cheaply as possible. Then, again, we would often find it very important to help a cultivator to get the best price for his produce. All this requires the help of the Co-operative Department.

In this connection, I would add one word of warning, and that is, that Co-operative Societies should not be used for experimental purposes, and the functions allotted to them in connection with agriculture should be of a very strictly defined character. This is essential, as it is of the greatest importance that all book-keeping of Village Co-operative Societies should be of the simplest possible. In time, as education improves, this may become less important, but at the outset it is a matter which appears to me of great consequence.

Gentlemen, I have had my say on a matter which I believe to be of vital importance to the progress of agriculture in this country, and I will not detain you any longer. I have had the advantage of being present at the very important discussion regarding agricultural education and dairying in India. I have only had time to glance on the reports of the various Committees, but I have seen enough to satisfy me that solid and important work has been done at this Meeting of the Board of Agriculture, and I can assure the Board that all their proceedings will be most carefully considered. In conclusion I congratulate you all on the great success of the eighth Meeting of the Board of Agriculture. (*Cheers*).