

Madras Agricultural Journal

(ORGAN OF THE M. A. S. UNION)

Vol. XXIII]

JANUARY 1935

[No. 1.

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Editorial.

New Year Greetings. With this number the Madras Agricultural Journal enters on its twenty-third year and we avail ourselves of the opportunity to convey to the readers of the journal our best wishes for the year. If in spite of the difficulties chiefly financial, we have succeeded, however little, in our endeavour to maintain the standard and foster the traditions of the journal, such success is no doubt due in a large measure to the large number of contributors, subscribers, advertisers and other well-wishers who have continued to patronise us. We are striving to improve not only the standard of the journal but have been gradually introducing new features which, we hope, have met with the approval of our readers.

After years of hard struggle during which ruthless economics in all possible directions were effected we have just been able to make the journal self-supporting. We wish to make an earnest appeal to all our well-wishers not only to continue to give their support but also to recommend the journal to as many of their friends as possible and thus help to increase its circulation. The running of the journal is not a profit-making enterprise but a labour of love, and any increase in its circulation would make it possible for us to improve the get up of the journal, widen its scope and ensure greater service and usefulness.

The New Year Honours. We have great pleasure in extending our hearty congratulations to Mr. G. N. Rangaswamy Ayyangar, Govt. Millets Specialist on the title of Rao Bahadur conferred on him by the Government. Mr. Ayyangar has been connected with the Madras Agricultural Department for the last 22 years as an important crop-breeder, first as an assistant in the paddy section and later as the head of the millets section ever since it was started in 1921. In 1930 he presided over the agricultural section of the Indian Science Congress at Bangalore. All along a warm supporter of the M. A. S. U. he also served as the editor of the Madras Agricultural Journal during 1933—34 and we wish him still greater honours in the future.

We also wish to extend our congratulations to one of our patrons, Rao Bahadur T. A. Ramalingam Chettiar M. L. C., President, District Urban Bank, Coimbatore on the title of Dewan Bahadur conferred on him. He is a familiar figure in all our College activities and has been evincing a great interest in the Union and the Journal.

The Indian Science Congress 1935. The twenty-second session of the Indian Science Congress which met in Calcutta from 2nd to 8th January 1935 under the presidency of Dr. J. H. Hutton, D. Sc., I. C. S. Deputy Commissioner, Naga Hills, Assam and Director of the 1931 census operation in India had the unique honour of having its "coming of age" session opened by His Excellency the Viceroy of India. Founded by a few enthusiasts in the year 1914, the Congress has grown steadily in importance and might well be regarded as the central forum for the discussion of scientific work done in this country. Mr. Syama Prasad Mukerjee, Vice-chancellor of the Calcutta University and the Chairman of the reception committee welcomed the delegates and his appeal for a scientific and systematic investigation of India's industrial problems, has come not a day too soon as at the present juncture the improvement of the economic condition of the people is the pressing problem all round.

The opening address of His Excellency The Viceroy was a masterly survey of some of the aspects of human activity in which science has played and must continue to play a part which is essential to progress. Referring to the activities of the different Scientific Services such as the Geological, Meteorological and Zoological surveys of India, the Medical Research Department, Imperial Council of Agricultural Research, etc., as Government's contribution to the advance of science in this country, His Excellency gave a timely warning that, while he could assure the continuance of Government assistance in all possible directions to such extent as resource permitted, Government could only be a single factor in what was a nation-wide undertaking to which all who had India's welfare at heart must lend sympathetic interest and effective support. It was an extremely practical and valuable suggestion which His Excellency gave and which we heartily

endorse that scientists could by team work ensure the maximum of achievement that was possible within the available resources, as the assistance given by Government and by private benefactors, however great it might be in the future, could never be sufficient to satisfy the ever-increasing demands of scientific research.

The agricultural section was presided over by Dr. Shaw, Director, Imperial Institute of Agricultural Research, Pusa. The total number of papers contributed to the section was over a hundred, divided into subgroups under agricultural statistics, agricultural meteorology, agricultural chemistry, plant pathology, plant-breeding, etc. The President in his address entitled "Indian Agriculture and Plant Breeding" rightly stressed the importance of breeding new varieties of crops resistant to diseases, as treatments against diseases in agricultural crops can at best be only preventive and not curative. The crop breeders' work in the several provinces towards producing heavy-yielding types of crops has been very successful, and in Madras breeding for disease-resistance in important crops like rice and cotton has also been receiving attention. We are glad to note from the Presidential Address that an intensive programme of breeding work in potato will soon be undertaken from funds to be provided by the Imperial Council of Agricultural Research.

Besides the General meeting, the agricultural section had two joint sessions, one with the Botanical section and the other with Physics, Chemistry and Mathematics sections. In the former there was a valuable discussion on the problem of cereal rust in India, the foundation for such a discussion being the important and interesting results obtained by Dr. Mehta of Agra in his researches on the subject. The latter was for the purpose of starting an Indian Society of Soil Science which has been in the air for the last two years. There were some differences of opinion expressed at the meeting with regard to the relation of the Indian Society to the International Society of Soil Science, but fortunately such differences did not prevent the Indian Society being formed. A number of workers on soil problems in the different provinces have joined the Society, and we are glad to note that Rao Bahadur B. Viswanath, Imperial Agricultural Chemist, Pusa, has been elected the first President of this Society to whom we offer our congratulations.

National Institute of Sciences, India An important event connected with the activities of the last session of the Indian Science Congress was the inauguration of the National Institute of Sciences by the Governor of Bengal on January 7th. The adoption of this name in preference to that of a National Academy of Sciences and making Calcutta the headquarters of the Institute has happily set right all the unfortunate differences of opinion that had arisen in this connection among the different sections of Indian Scientists. We find that one of the chief objects of the Institute will be to effect co-ordination among

different scientific Academies that already exist or may come into existence in future. The Academies have their own functions to perform, that of arranging for regular meetings and for discussion of scientific subjects and publishing the results of such discussions. We are glad to note that the National Institute will not compete with the Academies in such activities but will mainly concern itself in co-ordinating the labours of the different Academies. One hundred and twenty-five gentlemen representing different branches of science have been made the Foundation Fellows of the Institute and provision has been made to elect annually a certain number of Fellows. Among the Foundation Fellows, we are glad to note the names of three of the prominent members of the M. A. S. U., Rao Bahadurs T. S. Venkatraman, G. N. Rangaswami Ayyangar and B. Viswanath.

Marketing in India. The ineffective method of marketing agricultural produce obtaining in this country has come to be realised none too soon and the Imperial Council of Agricultural Research which had discussed the subject last year had put forward definite recommendations to the Government of India towards its improvement. We are glad to note that the Govt. of India has now accepted these recommendations and are arranging to communicate the same to the Local Governments in India and Indian States. The constitution of the central marketing staff attached to the Imperial Council of Agricultural Research has been announced and it is to consist of, besides the marketing expert, seven senior marketing officers and ten assistant marketing officers. Candidates for these posts have already been interviewed by the Public Service Commission and orders regarding the appointments are expected soon. These officers are to work in close co-operation with the provincial marketing officers and in view of the importance and urgency of the matter Government of India have also agreed to provide funds towards the appointment of junior marketing staff in each province for a period of five years. A regular scheme of work has already been drawn up and it will begin with a series of marketing surveys of the more important commodities not only in each of the provinces separately but also in respect of the inter-provincial, inter-state and foreign trade so as to provide an all-India future of the existing conditions and a common basis for future progress. It is hoped that such a combined effort with a definite plan of work will result in substantial benefit to the Indian agriculturist.

When the question of marketing agricultural produce is thus engaging the serious attention of one and all, it was but appropriate that the M. A. S. U. chose for its annual conference held recently in Coimbatore a symposium on the subject 'Agricultural Marketing'. Several valuable papers had been contributed to this symposium and we wish to draw the attention of our readers to four of these papers that are published in this issue.

THE TWENTY-THIRD AGRICULTURAL COLLEGE DAY AND CONFERENCE, 1934

In more ways than one, was the twenty-third College Day and Conference, which came off on 13th, 14th and 15th of December, 1934 unique. This was the second year in succession, when due to factors beyond the control of the Union the celebrations had to be shifted to a month other than July ; the second term at the College—October to December—is the shortest and in certain senses the most active, with a number of engagements crowded into it ; consequently what with the many tournaments and athletic events both at the College and in Coimbatore town, in which the students' club had to participate, and what with the terminal examinations in December, considerable inconvenience was felt in making the necessary preparations. Many of the arrangements were in suspense almost till the end of November and the final touches had to be given off in a hurry. Notwithstanding all these, all the celebrations went off without a hitch and the credit of the success goes to the Principal who very kindly antedated the examinations so as not to clash with the College Day, to the Director of Agriculture who at some inconvenience to himself arranged to be present for the conference, and to the President of the conference Dewan Bahadur Mocharla Ramachandra Rao whose worthy choice to the chair was more than justified by his learned address and the dignified manner he conducted the discussions giving a practical lead to them himself.

There was a slight departure also in the order of items in the College Day Programme. It has been usual for several years past to start the celebrations on a Saturday with the sports, follow it up with the General-Body meeting on a Sunday, and finish with the Conference on the days following. This year, however, the Conference came off on the first day and the finish was given by the sports on the last day,—a Saturday—while the General Body meeting coming as usual in between, provided with its considerations of matters purely of the Union, a welcome stepping down from the serious dignity of the Conference Hall, to the *gala*-gathering on the sports maidan.

Conference. On Thursday the 13th of December the Conference assembled at 9 A. M. under the distinguished presidentship of Dewan Bahadur Mocharla Ramachandra Rao Pantulu Garu, B. A., B. L., President, Land Mortgage Bank, Madras. After the President declared the Conference open, Rao Bahadur D. Ananda Rao, President of the Union, welcomed the visitors to the Conference. After this, messages of good wishes were read, prominent among which were those from Mr. Allen Carruth, Rao Bahadur Ramaswami Sivan, Mr. S. Burns, and others. The Secretary then read the Annual Report for the period

October 1933 to November 1934, after which the following medals and prizes were distributed to the various winners by the President.

The Robertson Prize	P. S. Viswanathan.
The Clougaston Prize	P. S. Viswanathan.
The Sampson Prize	S. V. Parthasarathy.
The Kees Prize	S. V. Parthasarathy.
Dewan Bahadur A. Raghunatha Rao Prize.	P. S. Viswanathan.
The D'Silva Memorial Prize	C. P. Kesavan.
The Anstead Medal	M. Kasi Viswanathan.
The Goschen Prize	T. S. Ramakrishnan.
The Certificate Course Cup	M. Kasi Viswanathan.
Rao Bahadur K. S. Venkatrama Iyer Medal.	K. Jayaraman.
The Cuddapah District Agricultural Association Prize	{ Ali Hyder.
	{ Bhujanga Rao.
	{ P. Rama Rao.
The Dewan Bahadur Sir T. Vijayaghavachariar Medal	M. M. Krishna Marar.

The President then delivered his address - a very exhaustive and elaborate survey of the present conditions of Rice-marketing and the difficulties of ryots in these days. The following papers were then presented before the Conference :-

Speakers.

1. M. K. Radhakrishnan, Kulitalai.
2. A. S. Kuppuswami Iyer, Tinnevely.
3. R. Ananda Iyengar, Madura.
4. Rao Bahadur B. Viswanath, Pusa
5. T. Lakshmana Rao and
M. R. Balakrishnan.

Subjects.

- Irrigation from a ryot's point of view.
 Certain aspects of the Irrigation Policy of the Madras Government.
 Certain aspects of Periyar Irrigation.
 Drainage aspects of irrigation.
 Lower Bhavani Project Area Soil Survey.

The Conference adjourned from 12 noon to 2 P. M. for the lunch interval and the following further papers were presented before the afternoon session.

Speakers.

1. B. V. Narayanaswami Naidu,
Annamalainagar.
2. N. S. Narasimha Iyengar,
Trivandrum.
3. S. Doraiswami Iyer, Coonoor.
4. C. V. Venkataramana Iyengar,
Coimbatore.
5. Avadainayagam Pillai, Tiruppur.
6. Dr. J. S. Patel, Coimbatore.
7. V. T. Ramaswami Iyer, Valavanur.

Subjects.

- Agricultural Marketing in India.
 Some aspects of economics of Agricultural Marketing in South India.
 Marketing of Nilgiri Potatoes.
 Marketing of Cotton.
 Co-operative Marketing.
 Factors affecting the coconut market.
 Marketing of groundnut.

After the concluding remarks of the President the conference came to a close with a vote of thanks to the President proposed by the Director of Agriculture.

The General Body Meeting. The General body meeting of the Union, was held at 9 A. M. on Friday the 14th of December under the

Chairmanship of the President, Rao Bahadur D. Ananda Rao Garu. The minutes of the previous meeting were read and confirmed, after which the annual report including statement of accounts and the Auditor's report thereon for 1933 to 1934, and the Budget for 1934-35 were read and adopted.

After the adoption of the Annual Report the election of office-bearers was taken up and the following is the full list of the office-bearers for the ensuing year.

COUNCIL (15)

1. Rao Bahadur D. Ananda Rao, (President).
2. M. R. Ry. K. Krishnamurthy Rao Avl., (Resident Vice President),
3. „ K. T. Alwa.
4. „ G. Jogiraju.
5. M. R. Ry. K. Unnikrishna Menon, (Moffussil Members).
6. „ V. T. Subbiah Mudaliar, (Secretary).
7. „ K. Ramiah, (Editor).
8. „ C. R. Srinivasan.
9. „ Rao Sahib Y. Ramachandra Rao.
10. „ K. G. S. Bhandari.
11. „ K. Gopala Krishna Raju.
12. „ Rao Sahib V. Muthuswami Iyer.
13. „ Rao Bahadur T. S. Venkatrama Iyer.
14. „ Rao Sahib T. V. Rajagopalachari.
15. „ R. Gitachari, (Student).

MANAGING COMMITTEE (9)

1. Resident Vice President.
2. Secretary.
3. Editor.
4. M. R. Balakrishnan, (Manager).
5. K. Ramaswami, (Treasurer).
6. M. U. Vellodi.
7. C. S. Krishnaswami.
8. S. V. Doraiswami.
9. K. Jayaraman, (Student).

EDITORIAL BOARD (7)

1. Editor.
2. Secretary.
3. Manager.
4. K. M. Thomas.
5. K. Raghavachari.
6. N. Parthasarathy.
7. Ramanatha Rao, (Student).

Entertainment. On the night of Friday 14th December, the students gave a variety entertainment. There were four pieces, English, Telugu, Malayalam and Tamil; and although all had to be crowded in one night's programme, the pieces selected were short and very well enacted, so much so, that the audience felt that this year's entertainments were second to no other in the past. All the actors were students and one and all of them rendered their parts very well indeed.

Athletic Sports. The sports were held on the College maidan at 3 p. m. on Saturday the 15th December in ideal weather and as usual there was a large gathering of visitors from Coimbatore town. Yet one more item—Pole vault—was introduced this year and although no records were taken, the standard of performances were very satisfactory considering that the students had just passed through the strain of the terminal examination and for three days previously, many of the competitors were members of the foot ball team that entered for the Health Week Tournament held at Coimbatore just then. For the second time in succession A. Mariakulandai knocked off the championship cup. At the end of the sports, Mrs. D. Ananda Rao very kindly gave away the prizes. The following is the list of prize winners:—

Cross Country Race. (The Norris Cup).	1. S. Kanakaraj David; 2. K. Jayaram; 3. R. H. Krishnan.
100 Yards dash. (The Saidapet Old Boys Cup).	1. Maria Kulandai. 11-1/5 secs. 2. Herbert Adishesayya. 3. S. K. David.
Childrens' Race. (Girls over 7 years). Long Jump.	1. Mary. 2. Bhagyam. 1. Maria Kulandai. 16'-11½". 2. Muthuswamy. 3. Arunachalam.
16 lb. shot put.	1. Suryanarayana Murthy 27'-½". 2. Arunachalam. 3. Tobias. K. I.
High Jump.	1. Muthuswamy. 4'-10¾". 2. Maria Kulandai. 3. Ramanarayana Menon.
Childrens' Race. (Boys over 7 years).	1. V. Ramachandran. 2. P. V. Venkateswaram.
Quarter Mile Race. (The Prince of Wales Cup).	1. Maria Kulandai. 58 3/5 secs. 2. Krishnanda Sastry. 3. Kolandaswamy.
Peons' Race.	1. Marudachalam, Cotton Section. 2. Mantri, Millets. 3. Sowri, Paddy.
Cricket Ball Throw.	1. Lakshman, 891. 2. Muthuswamy 3. Albuquerque.
Children's Race. (Girls under 7 years)	1. Pamkajam. 2. Seetha.
Half Mile Race.	1. Satyanarayana D. 2. 27-2/5 secs. 2. Kanakaraj David. 3. Krishnanda Sastry.
Javelin Throw.	1. Muthuswamy-N. 39 yds. 1'-7". 2. Ittyachan. 3. Tobias.
Pole Vault.	1. Arunachalam. 2. Kolandaswami.
Half Mile. (Invitation Prize.)	1. Karuppannan, Municipal High. 2:22-1/5. D. Clw. Munuswami.
120 Yards Hurdles, (The Ramaswami Sivan Cup.)	1. Maria Kolandai, 21 secs. 2. Tobias. 3. Lakshmanan.
Children's Race (Boys under 7 years).	1, Unnikrishnan 2. Thyagarajan 3. Lakshmanan.
Old Boys' Race.	1. Varadan, 12 secs. 2. Hanumantha 3. M. D. Prabhu.
One Mile Race (The Anstead Cup.)	1. Satyanarayana D. 5 min. 36 1/5 secs. 2. Kanakaraj David. 3. Rajagopal.
Obstacle Race.	1. Muthuswami. 2. Balakrishnan Nair. 3. Jayaraman.
Inter-tutorial Race.	1. Mr. P. V. Ramayya's Wards.
Inter-tutorial Tug-of war.	1. Mr. P. V. Ramayya's wards.
Championship Cup. (Vengayil Krishnan Nayanar.)	1. Maria Kolandai. 45 marks.

Exhibition. Additional interest was added to this year's College Day, by an Exhibition which was held in the Biological Laboratory, Freeman Building, during the three days. All the sections at the College and some of the Deputy Directors from the mofussil cooperated to put up a very instructive and interesting show, which was greatly appreciated by the visitors. In addition to the interesting exhibits from the several sections at the College special mention might be made of the pine apples from the West Coast, the sugarcane varieties from the V and VIII circles, the cabbages from Kotagiri exhibited by Mr. G. Mahadevan, B. Sc. Ag. (an 'old boy' who has taken up private farming) and the preparation of Malt biscuits and products by Mr. G. Venkatarathnam, B. A., son of Mr. G. R. Venkatachalapathi Raju, Assistant Farm Manager, Botanical Gardens.

Principal's Welcome Speech

Mr. President, Ladies & Gentlemen,

According to the constitution of the Madras Agricultural Students' Union, the Principal of this College is its ex-officio President. I therefore consider it a privilege to extend to all the visitors to this conference a word of welcome not only in my official capacity but also in my capacity as one of its members who has played his part from the early years of its life and one who has seen the Union grow from strength to strength. This is, however, my first occasion to enjoy this privilege and I seize this opportunity to welcome each visitor individually to this Institute and the Estate and to say how happy I am to see so many familiar faces.

This is an occasion to renew old friendships and make new ones. The cloud of financial stringency, has prevented many more who could otherwise have been with us to-day. Even the chosen few, especially among the junior members of the service, come at long intervals, and do so at no small personal inconvenience to themselves. We appreciate this token of good will and I trust that in turn we would be able to give during this necessarily short stay something which they can carry away as memories pleasant and beneficial. To this end, as an adjunct to this conference, we, with the co-operation of the Heads of sections, have been able to arrange an exhibition, a very modest one I am afraid, so that those who due to various other engagements, are prevented from taking a leisurely walk round the various sections and stations, might have the benefit of coming into contact with some of the problems in which they are interested, so that when they get back they might pursue them further.

You will agree that a conference of this nature calls for a good deal of anxious thought and hard work on the part of the Managing Committee and members of the various *ad hoc* committees. Therefore, if some of us do not receive you with a radiant smile, please do not conclude that you are not welcome and that we are only putting up with you. But I would earnestly request you to bear with us and put down any exhibition of bad temper on our part to run-down nerves.

An occasion such as this also gives an opportunity to compare notes—an interchange of opinions and experiences on matters which are invaluable to workers in a common cause. These are best done in private talks and group discussions for which I really hope there will be opportunities. The research workers of this Institute are as anxious to know of local problems, as they are

happy to clear the difficulties of the district worker. We are, therefore, glad to have you all in our midst for our mutual benefit and I should be extremely disappointed to know if at the week end, there was even one amongst us who had not enjoyed the College Day and the Conference.

It is usual among us to associate the month of July with the College day and Conference. But we have this year broken the rule as we have on some former occasions for certain important considerations. There has not been a conference during the last twenty-two years without the Head of the Department being present at it. Although circumstances till the other day were tending towards breaking this well established custom, I am thankful we were able to make circumstances our creatures so that we have today in our midst the Director of Agriculture as usual.

You will also notice that unlike our usual practice—here too there have been precedents—the conference this year precedes the College day, a welcome feature from the point of view of the student members of the union as it is in keeping with their tradition, business before pleasure.

To you, sir, my welcome is none-the-less hearty although I have had to delay expressing it. I am particularly thankful to you for having so readily and graciously accepted our invitation, extended to you at such a late hour and at a time when we were doubtful if we would have the Conference at all. As a President of the Prohibition Committee and of the Madras Co-operative Central Land Mortgage Bank, and as a member of the Indian Sandhurst Committee, of the Legislative Assembly and Council and of the Round Table Conference, your recent activities as a public man are well known. But we know you best as one of the leading agriculturists of the province. If I may add a personal note, I am bound to you by ties of family friendship. To us as a College also you are an old friend. Till recently, you were a member of the Students' Selection Committee. There was none in the Committee who was more responsible than you for the institution of 'short courses' at this college. It will no doubt please you to know that the first batch of students passed through the course in Farm Management last March and to-day we have in our midst boys who have taken and are taking courses in Farm Management, Malt Making and Insect Pests and Diseases and before the College year closes we hope to have some more students taking courses in Jaggery Making and Bee Keeping. We could have taken more students but want of accommodation has limited our activities in this direction.

As the President of this Conference you will guide the deliberations on two most prominent subjects exercising the minds of the agriculturist and the government, namely, irrigation and marketing, to the development of which there is ample scope. In you we have one whose pronouncements are bound to be of value, whose views will carry weight in right quarters.

We are also on the threshold of the inauguration of a new constitution. Although we eschew politics out of our discussions, we are interested to know what repercussions it would have on the well being of the agriculturist in general and on the members of the Union and students of the College in particular, so that we may not be unprepared when the call for greater responsibility and opportunity comes. This much is certain: our young graduates are not going to sit still and say "we shall not undersell ourselves"—a principle which may have been sound once—but will take cheerfully what comes in the way and do the job to the best of their ability, for service, not salary should be the call of the coming generation.

Even at the risk of being out of place. I have to dwell for a moment or two on a matter which to us as members of the union is tinged with regret.

Within two days from now M. R. Ry. Rao Sahib V, Muthuswami Ayyar Avargal, one of our oldest members is due to retire from service as Lecturer in Agriculture. I take this opportunity to express on behalf of all of us our sorrow at our having to lose him soon. His deep devotion to duty his honesty of purpose and his good nature will linger long with the members of this College and Institute although we will not have him moving amongst us and helping us in different ways. I wish him a long and happy life; that it is going to be yet an active one I need not doubt, for, I gather that he and his old comrade M. R. Ry. Rao Sahib T. V. Rajagopalachariar Avargal are contemplating to write a book on South Indian Agriculture, a publication long over due.

I am afraid I have much digressed and tarried long; may I once more bid you a hearty welcome?

Secretary's Annual Report.

The Managing Committee of the Madras Agricultural Students' Union beg to submit a retrospect of their tenure of office for a period of thirteen months from October 1933 to December 1934. This Conference should have been held in July, but for various reasons had to be postponed to this date, with the result that for a number of years now, we have been forced by circumstances to deviate from the idea of the original founders, who fixed the College Day sometime in July to synchronise with the anniversary of the opening of the College in that month in the year 1907. It is hoped that ways and means will be found to revert the celebrations to July at least in succeeding years.

It may not be out of place to mention at the outset, that this report is the outcome of a change in the rules of the Union, whereby, two reports are to be presented by the Managing Committee every year—one before the general body dealing with the activities of the Committee and the other bodies of the Union and with the financial conditions, thereof, and another report before the public Conference, dealing with important affairs of the Union and matters of general interest in agriculture.

The year that is just passing, coming closely on the heels of the economic depression which affected the whole world has held out hopes of the betterment at no distant date, of the situation all round. From its extreme position of depression and despondency the pendulum has swung back; we cannot, of course, say that we have reached the other end; we are perhaps in the middle of the swing and, (with Hope, a sustaining factor in human affairs) we are optimistic enough to think that many remedies will soon be found for the ills that the agriculturist is now heir to. The old slogan "Make two blades of grass grow where one grew before" has to give place to another, "Find a use for the extra blade before you grow it". Overproduction and slump have taught us that hereafter research and energy should be directed towards the utilisation, distribution, and consumption of agricultural commodities rather than towards an increase in the production. The future is pregnant with the possibility of human endeavours making such an economic adjustment very successfully. The pinch of circumstances has sharpened our wits and our capabilities, for such adjustment; and by virtue of necessity, it is more than probable that many of the present day problems will get themselves solved, by agricultural economics taking a definite turn towards the utilisation of raw products.

While the general level of agricultural prosperity was no more than could thus inspire a ray of hope in the optimist, catastrophes beyond human control have levied their toll on the agriculturist and his labours during the year. The Bihar Earthquake, the colossal and sudden magnitude of which stunned even us at this distance, was a disaster that turned large areas of smiling crops into

veritable deserts and barren wastes. Years and years of reclamation work will have to be gone through before the poor ryots bereft of all their worldly possessions, and sometimes of their kith and kin, can again venture to think of anything more than eking out a bare living. The storm in South India again with its centre round about Cuddalore, devastated crops to a great extent and reduced ryots to an extremely miserable condition. It is sad to think that with all his researches, man has not yet been able to control natural forces or even to give a forewarning of the danger that is in store by the unloosening of natural agencies. The only consolation is that disasters of this type bring the sufferers and the sympathisers into a closer affinity to work together and concert measures to allay suffering and to make life worth living.

That progress has not been retarded or that human ideas are not yet damped by these reverses is amply borne out by the fact that the Agricultural Department has during the year put forth a number of new schemes on the anvil for the expansion of its activities. The Banana Scheme, the Fruit Research Scheme, the Sugarcane Research scheme, the Lower Bhāvani Project Soil Survey, the Tungabhadra Project, the Dry Farming Scheme, the Malt Scheme, and the various schemes under the central cotton committee to mention only a few, are some of the visible indications of the progressive spirit that will ere long revolutionise agriculture in our country. It is true that the financial position of the Government perhaps incline them to be a little slow in giving effect to these schemes, but it is hoped that they will take a long-range vision of the future and bring these schemes to a working shape very soon.

It is pleasing to record that progress, steady and all round was again a feature of the activities of the Union during the previous year. It was in the fitness of things that Dewan Bahadur Sir T. Vijayaraghavachariar, Vice Chairman of the Imperial Council of Agricultural Research very graciously consented to preside over the 22nd College Day and Conference which came off from the 20th to the 24th of October 1933. Thanks to his personality, and thanks to the great interest evinced by the Director who deputed a larger number of officers for the Conference than in the previous years, and thanks to the labours of the various Sub-Committees who worked at great inconvenience, the whole function passed off without a hitch; even the Rain-God calling off his clouds after threatening us with a torrential downpour a few days before the celebrations.

The Sports.—There was a very large gathering of visitors and residents for the College Sports which came off on Saturday the 21st October 1933. Following the procedure set up in previous years, yet another item figuring in the Olympic contest was introduced in the programme. This was the javeline throw which attracted quite a large number of entries. Student Mariakulandai of Class II won the championship cup with 45 marks to his credit followed by P. M. Bennet of Class III with 28 marks. At the end of the sports, Mrs. Davis of the Forest College very kindly gave away the prizes. It is very gratifying to note that four records were broken—A. M. Kulandai, the champion of the year beat the previous records in 100 yards dash and quarter mile of 10-4/5 seconds and 59-1/5 seconds respectively by his performances in 10-1/5 seconds and 57-4/5 seconds; Kanakaraj David the College Half mile winner took away 5 7/8 seconds from the previous record of two minutes 26 7/8 seconds; in the invitation half mile P. Cleur of the Stanes High School did it in 2 min. 18-1/5 seconds, the previous record being 2 minutes 18-4/5 seconds.

Entertainments. There were two entertainments on the nights of Sunday the 22nd and Monday the 23rd October. On the first night the programme started with an English Orchestra followed by *Panditha Pachan* a comedy in Malayalam and *Yayathi*, a drama in Tamil. On the second night an English piece, "*Doctor in*

spite of Himself" was followed by *Rana Pratāp*, a tragedy in Telugu. All the actors were students and they acquitted themselves very creditably.

The General Body meeting. On Sunday the 23rd was held the general body meeting of the Union, at which, the annual reports including the statement of accounts for 1931—33 and the budget for 1933—34 were read and adopted, after which the office bearers for the ensuing year were elected.

The Conference. On Monday the 23rd the Conference assembled at 12 noon under the distinguished presidentship of Dewan Bahadur Sir T. Vijayaraghavachariar. After the President declared the Conference open, Rao Bahadur C. Tadulingam, President of the Union, welcomed the visitors to the Conference. Many messages of good wishes for the success of the Conference were read after which the Secretary read the annual report for the period 1931 to October 1933. After this medals and prizes were distributed to the various prize winners by the President. Mr. S. V. Ramamurthy then unveiled the portraits of Mr. G. R. Hilson, retired Director of Agriculture, Madras and of Rao Saheb T. V. Rajagopalacharya, retired Vice Principal of the Agricultural College, the portraits having been presented to the College by the friends and well wishers of these two gentlemen. The President then delivered extempore his address which was listened to with rapt attention. The following papers were then presented for the Conference.

1. "Agricultural Education—the Rural India needs" by Rao Sahib S. V. Kangasabai Pillai, B. E., Retired Assistant Engineer, Mannargudi.

2. "Perundururai Rural Vistas" by Mr. N. Lakshmanan, Perundururai Rural Centre.

3. "The Rapid Spread of Agricultural Improvements" by Mr. G. Jogi Raju, Assistant Director of Agriculture, Vizagapatam.

4. "The Yield Problem in Rice" by Messrs. N. Parthasarathy, S. Ramanujam and M. Narasimham, Assistants, Paddy Section.

5. "Investigations in the Second Crop Problem of the Godavari 'Delta'" by Mr. C. R. Srinivasa Ayyangar, Superintendent, Agricultural Research Station, Maruteru, and Assistants.

The Conference adjourned for a group photograph at about 5 P. M.

On Tuesday the 24th, the second and third sessions of the Conference were held in the forenoon and afternoon respectively, when the following further 10 papers were presented :

1. "South Indian Bananas" by Mr. K. Cherian Jacob, Assistant in Systematic Botany, Coimbatore.

2. "Recent Cotton Improvement work for the 'Northern' Tract" By C. Jagannatha Rao, Cotton Assistant, Nandyal.

3. "The present position of the Pemphres Problem" by Messrs. K. Dharma Rajulu, M. Suryanarayana, E. R. Gopala Menon and V. Marghabandhu, Assistants, Indian Cotton Committee, Coimbatore.

4. "Some Useful Experiences regarding Cane Cultivation and Manufacture of Sugar" by Mr. C. S. Krishnaswami, Farm Manager, Palur.

5. "A Note on the Breeding of the Thick Type of Canes for India" by Messrs. N. L. Dutt, Second Cane Breeding Officer, Coimbatore, and M. K. Krishna-swami, Assistant.

6. "Low Prices and the Plight of the Lowly Ryots" (with special reference to Coimbatore) by Mr. S. V. Duraiswami, Research Student in Economics and Marketing.

7. "The Place of Economics in Agriculture" by Mr. T. Narayana Rao, Assistant, Millets Section, Guntur.

8. "Scope for Entomological work in the Districts" by Mr. P. S. Krishnamurthy, Assistant in Entomology, Guntur.

9. "The Present Position of the Red Hairy Caterpillar, the Major Insect Pest of South India" by Dr. T. V. Ramakrishna Ayyar, Government Entomologist, and Mr. K. Brahmachari, Assistant.

10. "Some Important Aspects of Dry Farming" by Dr. T. R. Seshadri, Chief of the Department of Chemistry, Andhra University, Waltair.

After the papers were read the President referred to the passing away of Mr. V. J. Patel (which sad news reached us on the day of the Conference) and of Dr. Barber and Rao Bahadur J. Chelvaranga Raju. The audience stood in silence for a few minutes as a mark of respect to the departed. After the concluding remark of the President Mr. S. V. Ramamurthy proposed a vote of thanks to the President and to mark our pleasure and sense of importance at the visit of Sir Vijayaraghavachariar requested the Principal of the College to give a holiday to the students.

Exhibitions and demonstrations.—Advantage was taken of the large gathering present for the celebrations by the Government Agricultural Chemist and the Research Engineer to give demonstrations, the former on the method of making Cream jaggery, the latter on the work of the Cooper Persian Wheel water lift. Mr. K. Cheriyan Jacob who read a paper before the Conference on Bananas arranged a very instructive Banana Exhibition featuring different varieties and interesting notes about bananas in South India and elsewhere.

A feature of the College Day celebrations which has to be recorded was the great enthusiasm evinced and the valuable help rendered by the students of the College. It is pleasing to note that every student in the College is now voluntarily a member of the Union and renders his mite to the furtherance of its activities. The entertainments and sports were entirely run by them, with but a guidance from the officer members and the excellence of the show they put up is proof positive of their capabilities.

The Journal. This activity of the Union, in a sense the most important on account of its being an all the year round one, thrives as it has never thrived before. The financial commitment of the journal have always been a source of anxiety to several managing committees in the past and it is gratifying to note that there was a large increase in members and subscribers with the result that the journal has now become quite a business proposition, which promises to bring in a small but sure and steady profit to the coffers of the Union in the years to come. Considerable economy was effected on account of the change of press, which the previous committee did, and the labours of the Managing Committee and the Editorial Board have been rewarded in that they have succeeded in assuring a place for this Journal of ours amongst those of the world.

Other activities of the Union. Under the auspices of the Union a farewell was arranged in April last to bid good bye to the outgoing students. On the 9th July Mr. S. V. Ramamurthy delivered a lecture on 'Agriculture under the Fascists' wherein he clearly set forth in eloquent language his experiences as the result of a tour which he undertook to Italy amongst other countries in Europe during the beginning of this year. The fact that this lecture was the first public expression of his experiences after his return testifies to the great love he has for and the interest he evinces in our Union.

Consequent on the punctual publication of a journal of our kind demanding month after month the entire time and labours of the honorary workers in the Editorial Board and the Managing Committee it has not been possible to take any active steps to achieve and attain some of the other objects with which the

Union was started by the veteran pioneers of this Department in the earlier years. Of these objects, the most important perhaps at the present day is to act as an employment bureau for its members. With a number of students passing out of the College every year and the chances of their being absorbed in the Department becoming more and more remote the time has now come for the Union to focuss attention on this important subject and enlist public sympathy and co-operation. If unemployment amongst the educated classes is very keen to-day it is even more so in the case of the unemployed agricultural graduates to whom by virtue of their education in a technical institution of this kind other avenues are closed, if not in theory actually in practice. It is not merely the employment of these graduates in service that the Union wishes to draw attention to. It is the fact that year after year is turned out from this College a wealth of material which if properly utilised and given the chances to make itself useful will contribute greatly to the wealth of the country. With the cry of back to the land everywhere it should be possible to utilise these young men who have been taught in practice the dignity of manual labour towards village uplift, the starting of rural industries, improvement of the livestock of our country, the reclamation of waste lands and the utilisation of our national resources. The Union takes this public opportunity to sincerely appeal to Government, to public spirited men in the Legislatures and elsewhere, to our popular Director and to the President of to-day's conference to take stock of this valuable material and explore its possibilities.

The Committee beg to associate themselves in the expression of the Union's appreciation on the title of Rao Sahib conferred on Mr. V. Muthuswami Ayyar, Lecturer in Agriculture here and one whose name has been for long synonymous with the Union and the Journal. The celebrations of this year's College Day coincide with the termination of his official career even as last year's did with that of another great worker in the cause of the Union, Rao Bahadur C. Tadulinga Mudaliar. It is the sincere wish of the Union that Rao Sahib V. Muthuswami Ayyar will be spared very many more years of healthy life and that he will reap greater honours and rewards. The Union will always turn to him in gratitude as an old friend and well-wisher for advice, guidance and blessing. The Committee also wish to congratulate M. R. Ry. Rao Bahadur B. Viswanath, a former Secretary of the Union, and a former Editor of the Journal on his elevation to Pusa as Imperial Agricultural Chemist. We also congratulate Rao Sahib Y. Ramachandra Rao, M. A., F. E. S. the Locust Research Entomologist, and a former Editor of the Journal on the signal honour of having been chosen as the First Indian Delegate to the International Locust Conference, London.

In addition to Dr. Kasinath who returned last year with a Doctorate from the Imperial College of Science, London, Messrs. M. Sanyasi Raju and T. R. Narayana Ayyar who returned, the former with an M. Sc. from America, the latter with a B. A. from Cambridge, during the present year, are slowly increasing the list of officers in this Department who have had the benefit of foreign training and qualification. The Union accords its welcome to all these gentlemen and wishes that their improved knowledge will further the cause of Agriculture in this country. The Union wishes to congratulate further Messrs. M. Suryanarayana and S. Rajarathnam on the award of Gold Medals by the Government for the best drama on agricultural propaganda in Telugu and Tamil respectively.

The Late Dewan Behadur K. Rangachariar, M. A. and the late Mr. A. J. Wilson: It is sad to record in this report the passing away of two officers who belonged to this Department during the year under review. Dewan Bahadur K. Rangachariar, M. A., L. T., retired Government Lecturing Botanist passed away on 10th of May last in his native village, Kuppam. His was a familiar name not only in our

Department but in the educational world as well and to his bereaved family the Union sends its most heartfelt condolences. The late Mr. A. J. Wilson who died in harness as the District Veterinary Officer, Coimbatore, was for some years the Veterinary Assistant Surgeon here and was an extremely popular figure. He even attended the last College Day Sports and his genial smile on the occasion will never be forgotten. To Mrs. Wilson and the bereaved family the Union sends again its most heartfelt condolences. By a very unhappy coincidence the two deaths occurred so close together that at a General Body Meeting of the Resident Members of the Union on the 13th of May, 1934, resolutions were passed conveying our sorrow and expressing our condolences to both the families.

Conclusion. The Union is now in its adolescence having come of age last year. With the enthusiasm characteristic of sparkling youth it is ambitious to make rapid strides towards betterment and perfection. Born under the auspices of the original pioneers, sponsored by departmental heads and official support and sympathy, nurtured by the loving and affectionate care of the members, it is eager to continue its work of usefulness in a still more amplified form and towards such an end it makes an appeal to all officers of the Department, to all old boys of the College and to every one who has been appreciating the good work done by the Union, to continue their patronage and help it in its vigorous growth towards middle age.

It is now our very pleasant duty to record our grateful thanks to all those who helped us in our work last year. To Principals Rao Bahadur C. Tadulingam, Mr. S. Sundararaman, Mr. R. C. Broadfoot and Rao Bahadur D. Ananda Rao who as Presidents ex-officio have been evincing considerable interest and guiding us in our activities, our thanks are due. To Dewan Bahadur Sir T. Vijiaraghavachariar, the President of our Conference, to Mrs. Davis who presented the prizes on the sports day, to the Director, Mr. S. V. Ramamurthi for his very great encouragement and appreciation of our work, to the various committees that worked whole-heartedly for the success of the College Day, to the students of the College and to all those ladies and gentlemen who helped us in every way, our very grateful thanks are herein recorded.

Presidential Address.

It was a great pleasure to me to accept the kind invitation of my esteemed friend Rao Bahadur Ananda Rao and the members of the Agricultural Students' Union to preside over the deliberations of this annual conference. I am grateful to you for the opportunity you have given me of acquainting myself with the activities of the Union and with the excellent work it has done and is doing from year to year. It is a happy idea of the Union to provide at its annual meetings some items of general interest to the agriculturists and to arrange for the reading of papers on subjects dealing with the economic position of the ryots and the promotion of their agricultural efficiency. I regret to note that there has been of late a tendency for the admissions to this College to fall off. I hope that this is only a temporary phase. It is true that a large proportion of those who receive their training in this College look to the public service in the Agricultural Department and I believe that the openings in the Department have been somewhat restricted on account of the financial situation and this may be one of the causes for the smaller number of admissions to the college.

At one time I remember that there were rules that preference to the graduates of the Agricultural College should be given in the recruitment to the Revenue and other administrative services. I do not know whether these rules are still in force. The tendency to limit admissions to our technical and professional institutions in this country mainly for meeting the needs of the Government departments has been condemned by more than one authoritative commission. I see signs however that this tendency is again asserting itself in various ways and ought to be kept in check. I am glad to hear that the short courses which myself and other members of the college selection committee advocated for the benefit of the cultivating classes have been established at the college and are becoming popular.

AGRICULTURAL DEPRESSION

At the outset of our proceedings our thoughts naturally turn to the present economic and agricultural depression throughout the world and its reactions on this country. During the last four years the agriculturists in this province have been hard hit and have been practically reduced to the verge of insolvency. The catastrophic fall of the prices both internal and external have brought to the fore-front the question as to how the agricultural industry can be maintained as a profitable one till normal conditions are again established. In addition to the fall in prices, production on the agricultural side in regard to some commodities has also exceeded the effective demand. The ryot has been caught by an economic crisis, the most acute and far-reaching in the recent economic history of the world and even the most well-informed student of world economics and finance is unable to give a satisfactory answer to his constant enquiries as to when the depression will come to an end and when the prices of agricultural produce are likely to rise again to the old level. Agriculture in all countries is passing through a period of depression unparalleled in history, but when we remember that 72 per cent. of the population directly depend on it for their livelihood, we fully realise the immensity of the problem of relieving the acute distress now prevailing throughout the country. Economic nationalism is now swaying the whole world and the political horizon is cloudy, but almost every country has taken special measures to protect its primary producers in various ways during this period of crisis.

MEASURES OF RELIEF IN OTHER COUNTRIES

For example the State Governments in the Australian Federation established Farm Relief Boards in 1931 soon after the depression and the extraordinary functions assigned to these boards to afford temporary relief to the farmer shows the extent to which the Governments of these states have gone in helping the agriculturists to carry on their operations in these difficult times. Various legislative measures were passed under which all agriculturists are entitled to apply to the

Farmers' Relief Boards to issue protection certificates, on the issue of which the creditors are debarred from proceeding against the agriculturists in the courts for the recovery of their dues. The Farmers' Relief Boards are also empowered to bring about arrangements between the farmer and his creditors for the reduction of the farmer's debts so as to afford him a reasonable prospect of discharging the remainder of his obligations and of carrying on his operations. The Boards are also empowered to take charge of the farmer's income and distribute it, prevent the sale of his farm by the creditors and keep the farmer above want. The distribution is made in accordance with the following scheme of preferences: (1) Living allowances to the farmer and his family, (2) Repayment to the Crown or any other person of the funds required for carrying on agricultural operations, (3) Repayment of rents, (4) Repayment to the first mortgagee of one year's interest not exceeding 5 per cent., (5) Water rates, (6) Rates, taxes and annual charges due to the Crown or to any local or public authority and (7) Remaining creditors. One noteworthy feature in this scheme of preferences is that the living allowances of the agriculturists have the first claim on the available income and the rates and taxes due to the Crown take the last place. The reverse is the case in this country even during this period of crisis. The taxes due to the Government and local authorities take precedence over every other claim and no consideration is paid to the needs of the agriculturists whether he has a margin or no margin for his sustenance. The Supervisor of the Farm Relief Board in the Australian States is also empowered to establish a trust account and receives and distributes all farmers' moneys and income and if it becomes necessary he has the power of selling any of the properties and assets of the farmer except his farm and such of the assets as are used in connection with it and any insurance policy possessed by him is also excluded. The interest on mortgages and other secured debts are automatically reduced to 5 per cent. and unsecured debts carry no interest. These provisions have effectively prevented the sale of agricultural farms in Australia.

In South Australia, similar temporary measures have been adopted by the Government to enable the farmers to live on their farms during the period of depression, the primary object being to save the farm from being sold by the creditors and to provide them out of the income with funds to carry on the next year's operation. Similar measures to relieve the agriculturists in this crisis have been promptly adopted in Western Australia and Queensland, Tasmania, and New Zealand. In South Africa an Act has been passed at the beginning of the depression by which the Parliament has voted a special sum of money for being lent as loans to any person on the security of his land for paying off debts which he was justified in incurring and which he has no reasonable means of paying at this time, and if he proves that he is likely to

suffer serious and irreparable loss unless the debt is paid wholly or in part. The Board which deals with this matter can lend money to any person a sum not exceeding £ 1000 and to fix the period for the repayment of the loan. The steps taken in America for raising the price levels of agricultural commodities, for marketing crops and for financing the farmer in this crisis are also worth our attention. I need not refer at any length to the other measures taken in other countries in the direction of helping the agriculturists. In South Africa, the Government have heavily subsidised the agricultural export of 84 important commodities of South African produce. In Italy the Government have facilitated the redemption of debt contracted by agriculturists at excessive rates of interest. These debts have been converted into 25 years' mortgages with annual payment for interest and redemption which may not exceed $7\frac{1}{2}$ per cent. per annum, the difference being borne by the State. Most countries, including Greece, Egypt, Japan, France and Germany have done all that they could in supporting their agriculturists in various ways during the crisis and I do not wish to weary you by referring in detail to the methods adopted by them. I have invited your attention to all these measures taken in this great crisis elsewhere to save the agriculturists from collapse with a view to show what our duty in India should be at this juncture.

INADEQUACY OF STEPS TAKEN IN INDIA.

It is a matter for regret that in comparison with the measures taken elsewhere by the Government of the British Dominions and in the United States of America to afford relief to agricultural communities those taken in India have been very slight. During the last three years some of the provincial Governments have been discussing the nature and duration of remedial measures both temporary and permanent, but nothing tangible has yet been done so far to relieve the burden on the ryot. The general conclusions reached at the Crop Planning Conference and the Economic Conference recently summoned by the Government of India have not yet produced any practical results either for temporary relief or for the adoption of any measures for constructive action of a more permanent character embodying any broad policies of economic and social betterment. Various measures of debt relief legislation, reduction of the rates of interest and also for the control of money lending have been under consideration by the Government of India and in the provinces, but nothing has yet been actually done as yet and the position of the ryot is, therefore, becoming increasingly difficult. The one achievement of these conferences is the appointment of marketing officers under the Imperial Council of Agricultural Research and also the appointment of marketing officers in the provinces. It is obvious however that no appreciable progress can be made by these officers without extensive enquiries into the subject of the internal and external movements of crops throughout

the country and the facilities for the transport of the exportable surpluses either from province to province or to countries outside India. Apart from these enquires which are going on the work of these officers have necessarily to be supplemented by establishing a banking organisation with its roots in the villages for the supplying of marketing finance to agriculturist. Enquires about the establishment of an Agricultural Credits Department under the Reserve Bank of India have only just begun. It is clear therefore that improvements of the situation by means of organising better marketing facilities is still a long way off. Whatever may be the measures that may be ultimately adopted measures of temporary relief have already been delayed too long and unless the Government of India and the Provincial Governments take prompt action legislative and administrative, it is clear that the position of the agriculturist will become still more difficult in the near future.

THE RICE PROBLEM

As an illustration of a case where neglect on the part of the Government of India has seriously affected the interests of the South Indian agriculturists, I may refer to the continued import of rice into this Presidency from Siam. This matter has attracted wide public attention throughout the province and has been the subject of representations to the Government and also of many interpellations and resolutions not only in the local Legislative Council, but also in the Legislative Assembly. A deputation of Madras members also waited on the Government of India on the subject and urged on them the necessity for immediate action. Notwithstanding all these efforts and also of the representations of the Local Government, the Government of India have not seen their way as yet to take any action to discourage or stop the continued import of rice into South India from Siam. Among the provinces of India, Madras occupies the fourth place as regards rice acreage and third place as regards production. The area of rice in this province is about 11 million acres which is about thirty per cent of the area under cultivation. The price of rice at the present day throughout the province is about 50% less than it was in 1904—1908. In these circumstances, the import of rice from Siam to the extent of nearly two hundred thousand tons this year has seriously affected the price of the local produce, and the South Indian rice markets are now practically flooded with this rice. The marketing officer appointed by the Government to report on the rice production and trade in this Presidency is definitely of opinion that the huge uncontrolled import of a cheap rice from Siam has dislocated the price level of the local rice and has made the position of the rice grower precarious. He is also of opinion "that the price level of the local product could only recover when the price of the imported rice is raised to the level at which the local rice should sell if the cultivator is to derive profit over

his cost of cultivation. This can be achieved by either completely stopping the foreign import or restricting the quantity to be imported. Of the three countries we have to deal with, Burma, Siam and Indo-China, we may be able to do nothing with the first so long as it remains a province of India. Moreover, Burma has from a long time been meeting our deficits in rice production. In the case of Siam and Indo-China, however, steps should be taken to completely prohibit the imports. If total prohibition is not feasible, a suitable import duty on rice and paddy should be imposed. Elimination of Siam and Indo China will leave Burma as the main importing country and the full demand of Madras would, therefore, help to increase the price of Burma rice. With an improvement of the price of Burma rice, the price of local rice should also automatically improve."

Notwithstanding this weighty pronouncement after an exhaustive enquiry into this question by the special officer, there is no visible sign of any action by the Government of India as yet. While measures of relief were being devised and promptly adopted in all other countries to make the position of the agriculturists easy during this period of crisis, the Government of India are looking on with unconcern when our basic industry has been hit hard. It has been stated some time ago that the Government of India have been making diplomatic representations to the French Government, and that this course has been adopted to avoid retaliatory action on the part of France in regard to the Indian commodities now imported into France and the colonial French possessions. The groundnut trade of South India with France is an important matter which cannot be forgotten in a consideration of this problem. It has, however, come to light recently that France has had no hesitation in imposing import duties on our groundnuts in the interest of her own colonies and with a view to give preference to her colonial products. While diplomatic negotiations are going on, regular and increasing consignments of rice are being received at the South India ports from Siam and Indo China. Tariff protection for the agricultural industry, especially for those products which have only a domestic market has long been an established policy in other countries. The large import of rice has seriously disturbed other internal markets. It is to be hoped that there will be no further delay in the prohibition of imports of rice from Siam and Indo-China and unless speedy action is taken, the position of South Indian agriculturists, which is already difficult, will become still worse. This is not the time when the Government of India should be engaged in re-examining and balancing the arguments about free trade versus protection. What is wanted is immediate action to help the ryot to keep his head above water during this period of crisis.

THE RAILWAY FREIGHTS

Whatever may be the reasons for inaction in prohibiting the import of foreign rice, I do not see any reason why there should be

any hesitation in the reduction of railway freight charges on paddy and rice from one place to another. This is a matter entirely under the control of the Government of India. In most of the years, Madras is able to meet its own demand and also to export some quantity of rice to Mysore, Hyderabad, Bombay, Goa and other provinces outside this Presidency. The railways are the chief means of transport from place to place in this province as elsewhere and the railway freight rates which has increased from 30 to 80 per cent during the last 15 years continue today at that level with certain exceptions notwithstanding the fact that the value of produce has come down considerably. Because of the high railway freights the movement of the produce within the province is getting more and more restricted and the advent of foreign rice from Siam and Indo-China has further disturbed the rice market. In these circumstances, the continuance of the present railway freights on the same scale as before the depression notwithstanding the tremendous fall in the prices of paddy, is a more serious problem affecting the position of the ryot. The position is illustrated by examining the freight charges from the delta districts to some of the consuming centres in this Presidency. The railway freight charges from Cocanada to Bangalore before the depression amount to 18 per cent of the then prevailing price per maund, whereas they amounted to 46 per cent of the price of rice prevailing in 1933-34. Similarly, the railway freight charges from Cocanada to Cuddappah and Bellary amount to 40 per cent of the present price of rice per maund as against 16 per cent before the depression. Similarly the railway freight charges from Bezwada to Bangalore now amount to 34 per cent of the price of rice per maund in 1933-34 as against 14 per cent before the depression. Nearly $\frac{1}{3}$ of the price per maund in 1933-34 is paid as freight charges from Bangalore to Ceded districts as against $\frac{1}{7}$ th of the prevailing price in 1927-28. Taking again, the freight charges from Tanjore district to places like Karur, Koilpatti, and Dindigul, they amount to more than $\frac{1}{3}$ of the price per maund of rice realised in 1933-34; whereas before the depression nearly $\frac{1}{6}$ th of the then prevailing price was paid as freight charges. In these circumstances, the margin left to the ryot after the payment of railway freight charges from these districts with cultivation expenses leaves him practically nothing. Unless railway freight charges are materially reduced, the internal movement of paddy and rice cannot be a paying proposition. It is surprising that the Government of India have not paid any attention to this aspect of the problem. In strong contrast to this inaction on the part of the Government of India for the reduction of railway freights on agricultural produce, we may point out that the Australian Government realised the imperative necessity of keeping the freights down in order to assist the farmer and large rebates on agricultural produce were allowed in spite of the fact that the Australian railway's losses for

two years amounted to more than 20 million pounds. The position of the Indian railways is very much better, but the continued net earning of traffic receipts of the Indian railways have been obtained at the cost of the cultivator. Representations made at the Crop Planning Conference on the subject elicited the reply from the officers of the railway board "that the question will receive sympathetic consideration". We have not seen any tangible evidence of it as yet, and the position cannot improve unless the Government of India make up their minds even at some loss to help the agricultural industry at this juncture.

NEW MEASURES OF TAXATION

While, I have no doubt, that the Local Government are doing their best to press these matters on the Government of India, they have not been able themselves to show their practical sympathy with the ryot by taking suitable action within our competence to ease the situation. They are carrying on their normal settlement operations in the districts; they have, during this period, given effect to the resettlement schemes and have introduced resettlement rates which in most cases have increased the existing rates by $18\frac{3}{4}$ per cent. They have increased the water rates in the Godavari and Kisna Delta by 25 per cent. They have also substantially increased the water rates in the Cauvery delta by the imposition of a flat water rate of Rs. 7-8-0 per acre on second crop wet cultivation. They have ordered the re-classification of irrigation sources in some districts which would still further increase the existing burden. I have mentioned all these facts with a view to show that notwithstanding the tremendous fall in the price of paddy and other agricultural produce by about 50 per cent since 1929, the only relief and help which the Government of Madras have afforded is the remission and suspension of land revenue by $12\frac{1}{2}$ per cent for two years. I presume that the Government are fully aware of the existing conditions in this province and, at any rate, the numerous discussions in the Legislative Council have given them an opportunity of acquainting themselves with these facts. In terms of produce, the ryot's rupee costs him now twice as much as it did before the depression. For the payment of land revenue and interest charges on his debt, the ryot has now to sell double the quantity of paddy or other agricultural produce for the purpose of keeping to his existing engagements. The out-turn from his lands has not admittedly doubled and he is, therefore, unable to keep to his existing engagements. When such is the state of things, the further increase of his existing obligations at the present juncture by additional taxation either by increasing water rates or increasing the assessments by reclassification of sources is altogether without any justification. With his income reduced by half by the fall in prices, how is the agriculturist to meet his present and accruing obligations?

It is now nearly five years since the depression has set in and there is no knowing how long it will continue. In all these circumstances, any proposal involving imposition of additional taxation is really increasing the burdens on the agriculturists to the breaking point. I trust that the urgency of action for temporary relief in the directions that have been indicated will be realised and some speedy measures will be devised for the purpose.

AGRICULTURAL RESEARCH

It is a matter for satisfaction that since the establishment of the Imperial Council of Agricultural Research, the importance of carrying on scientific research in agriculture is receiving increasing recognition throughout the country. There is however one bright spot in the present gloomy situation in the country in the system of agriculture. The establishment of the sugar industry during this period of depression is a great achievement. Under the able guidance of my esteemed friend, Sir T. Vijayaraghavachariar, the organisation of research work in all the provinces has received a new stimulus. Whatever may be our views about the constitutional changes put forward in the Joint Select Committee's report, the proposal that the existing Central Research Institutions should remain under the exclusive control of the Federal Government of the future will, I have no doubt, receive general support. This view is in accordance with the course of development in the Federal constitutions elsewhere. But these institutions can only flourish with the active support of the units of the Federation. The establishment of Provincial Autonomy should not necessarily lead to the conclusion that each province should regard itself as self-sufficient in the matter of scientific research or for the Federal Government to disconnect itself with the efforts hitherto made to collect and co-ordinate the results of scientific research. The recent removal of the Pusa Research Institute to Delhi has formed the subject of acute controversy throughout the country and although the Government of India have decided to remove the Institute to Delhi, it is clear that the establishment and maintenance of another centre by the Government of India to carry on research relative to the main food crops of Central and Southern India is necessary. The research station at Coimbatore has justly earned a great reputation throughout the country and I trust that the Government of India and the Provincial Government will not hesitate to invest necessary funds for the expansion of the work of agricultural research at this station into a first class institution for serving the needs of this part of the country.

PROPAGANDA AND DEMONSTRATION

The intensification of agriculture on scientific lines is only possible by continued work in all branches of agricultural research. But agricultural research can be of no help to the cultivator until its results are given to him in a form in which they may become a part of his

general practice. This question is of the utmost importance. The Royal Commission on Agriculture has examined the problems relating to propaganda at considerable length and have made various suggestions which have not received any attention as yet in this province. One of them is the appointment of an expert officer for propaganda work. It should be his task, they have stated, to watch the various schemes of propaganda in operation in the provinces and to record their results and to suggest methods of making them more effective. The several methods of propaganda employed and their relative costs have to be frequently reviewed in the light of recorded results. The only hope of convincing the cultivating classes of the advantages of agricultural improvement lies in ocular demonstration. The question of establishing more demonstration farms has been frequently pressed upon the Government, but I presume that on account of financial considerations there has not been any material extension in this respect. Although the work in connection with our demonstration farms and demonstration plots has been satisfactory, much more could be done by a further extension in this direction. The introduction of the film and the Radio for the purpose of propaganda in the villages has now come within the range of practical politics and broad-casting schemes for villages are now under active consideration. I am certain that the employment of a special officer solely devoted to develop methods of propaganda is very desirable and ought to be undertaken without delay. Another suggestion that has been put forward was that the Agricultural Department should make far greater use of Co-operative Credit Societies than they are now doing for purposes of propaganda. This suggestion has not also been carried out. It is also necessary that we should have some kind of unofficial organisation in each district or taluk for stimulating agricultural development and for this purpose the Royal Commission on Agriculture has also expressed the opinion that the Agricultural Department can effectively utilise the help of co-operative associations. This suggestion is also worthy of consideration. The utility of Co-operative Credit societies in advancing agricultural improvement is so obvious that it is not necessary to stress the point any further. There appears to be no organisation better fitted to further the propagandist work of the Agricultural Department than the Co-operative Societies; and whatever may be the state of things elsewhere, there is no doubt that in this province a close touch between the Agricultural and the Co-operative Departments can be established.

THE RURAL PROBLEM

I will go further and plead that a comprehensive policy of handling the rural problem as a whole is necessary. We need to get away from the fragmentation of effort represented by each Department of Government with little co-operation between them and no connected

plan of work. The late Mr. K. T. Paul who took great interest in the welfare of the agricultural classes put forward a proposal for the establishment of district development boards where every department of Government engaged in village work must work hand in hand with each other. It is no use for any one department or authority setting out by itself to uplift the villages, all must work together. It is necessary that we should move more and more in this direction if any results are to be obtained. The several departments of the Government are working laboriously and faithfully each in their own way for the uplift of rural India, but a co-ordinated effort is very much better. The same proposal has been put forward by the Royal Commission on Agriculture. They stated that "lasting progress is unlikely to be achieved unless in all provinces the activities of the various departments concerned are co-ordinated by Development Boards, Advisory Committees, or officers charged with the specific duty of securing combined action towards a given end. The responsibility for framing the policy and of combining the activities of two or more departments in order to give effect to that policy lies on the Government." Agrarian reforms of a far-reaching character have been undertaken in many countries since the war and fundamental changes are being made in their agricultural organisation and economy. Schemes for a national planning of agriculture are being continually put forward by agricultural economists and the subject of adjusting production to demand is also receiving great attention everywhere. The back-to-land movement is also receiving increasing attention. Various schemes for reclamation of land hitherto considered unfit for cultivation are being actively pursued. We cannot afford to ignore all these new developments and to lag behind other countries. We are now in sight of great constitutional changes and we may express the hope that these changes may result in greater freedom in the adoption of broad policies both at the centre and in the provinces for the welfare and prosperity of rural population.

Messages.

Mr. Allen Carruth O. B. E. (*Former Deputy Director of Agriculture, Livestock, Madras*) This is the first occasion on which it is my privilege to address a message as a Patron of the union and I wish to convey to the Union my appreciation of the honour. My connection with the Union has always been happy and I shall ever be grateful to the M. A. S. U. for the handsome compliment of inclusion amongst such well known names for service to agriculture in Madras presidency and generally for the advancement of the people. The gathering together on College Day contributes to a broadening of views on the various problems, acts as an inspiration towards a step forward, gives encouragement in a good work, and thus with my whole heart I wish all a successful gathering from every point of view. The pictures of the College Days which I had the pleasure of attending are still vivid in my mind, and when the day comes round my thoughts are with you in good wishes and happy memories of the past. With all good wishes for the success of College Day.

Dr. Burns, Director of Agriculture, Bombay. I send you the best wishes of the Bombay Agricultural Department for the success of the occasion. I have the greatest admiration for your Union and particularly for the high standard of the Madras Agricultural Journal. I observe that you are going to discuss two matters, namely, irrigation and Agricultural Marketing in which we in the Bombay Presidency are also deeply interested. I look forward to seeing an account of these discussions in the journal. With renewed best wishes for the success of your gathering.

Hon. Secretary and Treasurer, Madura, Ramnad District Agri. Association. (*By Telegram.*) Madura—Ramnad District Agricultural Association wishes the College Day and the Agricultural Conference all hilarity and success. Best wishes for successful College Day and Conference.

Rao Bahadur B. Viswanath F. I. C. Imperial Agricultural Chemist, Pusa. (*By telegram.*) Thanks invitation regret inability attend have sent paper wish functions success.

Hon'ble V. C. Vellingiri Gounder (*Member, Council of State*) I hope that your Conference will end in good success.

Rao Bahadur C. Tadulinga Mudaliar (*Former Principal of the College*). I take this opportunity to congratulate the Union on their choice for discussion at the conference of the two interesting and all important subjects, irrigation and Agricultural marketing. Wishing the conference and the sports every success.

Dr. P. J. Thomas, Professor of Economics, University of Madras. Allow me to tender my best wishes for the success of the Twenty-third College Day and Conference to be held on the 13th instant.

Lodd Govindas Zamindar, Madras. It gives me great pleasure in receiving the invitation for the 23rd College Day and Conference of your Agricultural Students Union. I greatly appreciate the good work that is being done by the Agricultural Institution in Coimbatore. I wish to place for the consideration of the members of your Union and the Board of Trustees of the Agricultural College whether suggestion cannot be made to Government to get the large extent of waste land available in the various Zamindari tracts in the Presidency to be brought under cultivation for the betterment of the agricultural condition of the country and to afford facility to the people by getting very large quantity of food grains. Of course arrangements will have to be made to find some way for irrigation purposes from various available sources, by finding funds, but if the scheme becomes successful it will serve very good purpose for the country from several angles of vision. Banks may be opened to advance moneys as loans in necessary cases with such conditions as may be laid down for the recoupment of the funds. With best wishes.

Rao Bahadur M. R. Ramaswami Sivan. (*Former Principal of the College*) I must congratulate the executive Committee on the excellent work done by the M. A. S. U. during the year, especially, in the matter of the journal. It is the cheapest and one of the best conducted agricultural journals published in India. While catering to the lay outside public, it still continues to be the organ of the M. A. S. U. and there is no excuse whatever for any old boy or officer of the department not joining the M. A. S. U. or purchasing of its journal. *Esprit de corps* has been our motto, and one who is eligible to be a member and has not yet become one does not, in my opinion, help to create an *Esprit de corps*. Wishing you once again a successful College Day and Conference.

Mr. R. Cecil Wood (*Former Principal of the College*) You may be interested to know what I think are the two most important factors in Indian Agriculture as a result of my time in India and subsequently in various other Tropical countries.

First, the evils of losses from Erosion—secondly the enormous potential value of habitation wastes—when treated by the activated compost method as at Bangalore or Indore. I am convinced that attention on these two matters would go far to remedy the difficulties at present being felt by the farmers of your country. My best wishes for the success of the Union.

AGRICULTURAL MARKETING IN INDIA

BY Dr. B. V. NARAYANASWAMY NAIDU, M.A., Ph D., B.Com., Bar-at-Law.

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Importance of Marketing. The phenomenal fall in the price of agricultural produce in recent years has drawn pointed attention to the problems of marketing of agricultural produce in this country; and it can scarcely be doubted that among various other operative causes, national and international, the lack of proper marketing facilities in this country have an important share in bringing about this great landslide in prices. The fall in prices could have perhaps been minimised with better arrangements for marketing; at any rate it is beyond doubt that even in the most prosperous of times producers in this country were never able to get the maximum price for their products.

Disabilities of the peasant producer. It is a common phenomenon in this country to find the agriculturist trying to sell his produce as soon as the harvest is over even though the market is glutted with the same goods and the prices have fallen. He undertakes to do this since he has often to meet the insistent demands of his creditors, to pay the kist, or other seasonal obligations, or has no facilities for safe storage and hence he invariably sells at the lowest price and thus gets a very scanty return for his labours. This is not his only disadvantage; lack of standardised weights and measures, absence of grading, want of proper inspection of goods, secret settlement of prices by agents and brokers, have all gone against the interests of the producer. False and incorrect weights and measures are often used and the Punjab Banking Enquiry Committee found that out of 1,407 scales and 5,907 weights examined by them 69% of scales and 29% of weights were incorrect. Even if the weights and scales were correct the presence of a large variety of local weights and measures only tends to confusion and loss in marketing. Prices are often cut down on the ground that goods are not according to specifications and the absence of a proper system of inspection makes it difficult to locate the fault. The illiterate peasant is often deceived by the secret bargaining of agents and brokers since he is not in possession of detailed knowledge of the market. Large quantities of things are taken from him as samples without any payment. Another disadvantage he labours under is that he is asked in many towns and rural centres to pay a heavy impost for charities and various other purposes.

The place of Internal Marketing. These are a few of the difficulties of internal marketing ; and this is of paramount importance to the Indian producer in view of the fact that out of 1,200 crores to 1,300 crores worth of agricultural produce in British India the internal market accounts for more than a thousand crores while foreign markets take only 200 to 300 crores worth of agricultural goods. Let us now consider the difficulties of external marketing.

Defects of External Marketing. The most outstanding feature of external marketing is the lack of a well-directed and unified selling organisation. This has been detrimental to the indigenous seller in that the unsettlement in quality and specifications has often resulted in an ignorance in other countries of the real quality of his goods and their extent as well as in his getting much lower prices than his goods could otherwise have secured. Not only has there been no proper advertisement of his goods in foreign countries but an impression has even gained ground in other countries that India cannot supply high-grade products. This latter has been in some measure due to variations in specifications and manipulations of standards. Improved methods of advertisement, proper grading and branding of goods and the establishment of trade agencies in foreign countries are obvious remedies for these evils.

Essentials of Marketing ; Sellers' Co-operative Societies. These difficulties cannot be overcome without taking into account the essential functions of marketing viz., collecting and assembly, transportation, wholesale distribution, retailing, risk bearing and financing in all stages. The present wasteful method of individual selling of agricultural produce has to be given up in favour of collective and co-ordinated selling. This implies provision for improved credit and storage which can be best secured by the establishment of Agricultural Co-operative Marketing institutions. Having regard to the exceptional economic conditions of our country it can very well be realised that seller's co-operative organisations are more vital to the best interests of the people than even buyers' co-operative societies. This will prevent the dumping of agricultural produce in the market by the ill-informed and impecunious individual producer or the restriction of its supply and artificial raising of the prices by the moneyed speculator. The poor agriculturist need no longer sell his goods soon after the harvest for want of proper storage facilities. The selling organisation will help to get him credit till his goods are sold, store his products, and release them for sale at proper intervals. If we take rice for instance we find that though the demand for it is constant in provinces like Madras and Bengal, there is excessive supply and lowering of prices at some seasons and comparative scarcity and higher prices at other times. The sellers' association can advance money to the

cultivator on the security of his goods, provide for storage, and arrange to release the goods at favourable times.

The need for such organization. Apart from all these, such organisations can improve the merchandizing practices, help in the careful grading of commodities, provide for improved methods of advertisement, regulate the quality and quantity of supplies to different markets, increase the bargaining power of the farmer (for, an individual seller cannot bargain as effectively as the manager of a co-operative association which has in its control large quantities of agricultural produce) and eliminate trade abuses. This will no doubt tend to greater economy in marketing and serve to restrict the activities of the middleman. Thus the great need for establishing selling organisations becomes evident. Such associations may be formed for definite areas and linked together in a central organisation.

American Experiments. The present American experiments in co-operative marketing are of interest in this connection. By the passing of the Agricultural Marketing Act of 1929 the Federal Farm Board was established and stabilisation corporations were created which attempted stabilisation of commodity prices and price regulation. The Act provides, in addition, to give aid to farmers for forming co-operative marketing associations and the Board has given an impetus to the forming of national associations for each principal crop. The Board has advanced considerable funds for packing houses, elevators and warehouses and for mechanical equipments for storage.

Transportation. In any scheme of sound marketing transportation plays an important part since it is the price of the commodity at the customer's door that matters and not merely its cost of production. In the matter of agricultural marketing, the produce has to be taken from the rural areas to the nearest railway station, thence to the railway terminal and thence distributed to the consumers. Transportation not only gives additional value to agricultural products but it also adds time and place utilities to the commodities thus transported. Experience and enterprise have proved that certain things are produced best and most cheaply in certain areas though the need for them is widespread. Hence, amidst modern conditions, it is more economical to manufacture them in such areas and transport these goods to all those places where they are in demand and thus contribute to the good of the consumer as well as the producer. The most important agent of transport is the Railway and complaints have been widespread in this country that freights have been too heavy and facilities for transport inadequate. The Central Banking Enquiry Committee in their report say that it costs Re. 1-3 to send by rail a maund of wheat from Calcutta to Lyallpur while the freight from Australia to Calcutta is only six annas. This hampers the free flow of goods within the

country and indirectly sets a premium on imported articles. The importance of Railways in the marketing structure of a country can scarcely be overestimated in that the efficient and reliable service rendered by the railroad reacts on the actual and relative rates which determine the markets for various goods. So in foreign countries, various methods of transportation, viz., railroads, waterways and truck services are encouraged and special transportation services such as refrigerator cars, fast freight lines and express service make it possible for goods to be delivered quickly, cheaply, and in good condition. This widens the market for certain goods and prevents their reaching the destination a day after the fair. Therefore there is a great need in this country to improve communications, to increase transport facilities, and to decrease the freights.

Storage. Another important aspect of marketing is storage. Storage has been a necessity from the earliest of times in order to conserve the supplies of goods during times of plenty so that they may be utilised in times of scarcity. It helps to adjust seasonal production to the needs of continuous demand and acts, as it were, as a reservoir in order to insure an even supply to meet the recurring needs. Two methods of storage are in existence in other countries: (1) a chain of government warehouses, and (2) a licensed system of private storing houses. Of these, the system of private warehouses seems easier and cheaper to work. All important centres of agricultural production should have warehouses of their own which may be entrusted to reliable and capable men having the necessary accommodation and willing to furnish a reasonable security. Such warehouses should be licensed by a licensing board consisting of the representatives of government and of local business interests including agriculture. Warehouse receipts have been recognised as valid securities in other countries and therefore the financing of agriculture can be rendered easier by this method. Perhaps it may be objected that increased facilities for storage and warehousing may encourage restrictive and speculative activities; but this can be prevented by provision for a system of periodic release of produce by lots or rotation. Warehouses in the proximity of railway stations may be built by the railways themselves or by private agency with the help and encouragement of the Railway Board. With legislative sanction railway receipts giving full details of the goods deposited may even be used as negotiable instruments.

Grading, Standardisation and Simplification. Grading, standardisation and simplification of products come next in importance in the organisation of marketing. In the case of India, however, these are of utmost importance since she has yet to build up in other countries a reputation for the high quality and reliability of her products. Sales to foreign buyers can be effected only by the help of samples or by

description. Grading and standardisation give exactness to such descriptions and eliminate the possibility of error or misunderstanding. Standardisation seeks to introduce a uniform system of measurement of quality as well as quantity. The first aspect involves grading while the second secures a reliable system of weights, measures and specifications. Simplification tries to restrict the classification of goods into a few varieties as possible. The advantages of such processes are that the graded product secures for the producer the highest price that he can legitimately get, and enables him to create a demand for it and ensures to the purchaser the quality that he prefers. Branding helps the latter to identify the product that he wants. Needless to add that all these go to facilitate market finance operations.

State Action. Various measures in regard to these aspects of marketing have been adopted in America where the Federal Trade Commission and the Bureau of Standards have been attempting to establish certain definite standards. The Federal Pure Food and Drug Act has aided greatly to enforce the purity of food products. Nor have private agencies been behindhand in this direction. In this country also, fraudulent action has been sought to be prevented by Government but these attempts have been neither thorough nor systematic. A stringent enforcement of the Food Adulteration Act and the extension of the Madras Commercial Crops Markets Act of 1933 are much to be desired.

Marketing Finance. The importance of marketing finance has been widely recognised. Every marketing transaction requires funds and hence there is a great need for the expansion of mercantile credit in India. Proper financing of marketing operations can alone secure regularity of supply and adequacy of prices. The scope for such financing is very great in India in view of the limited facilities that banking offers in this country. In the United States of America one of the most recent types of specialised financial institutions is financing companies for the marketing of goods. A proper study of these methods will help the introduction of similar institutions in our country also.

Remedies. The lack of proper marketing facilities has been a great handicap to the Indian producer in this competitive age and a good deal has to be done to enable him to come to his own in the markets at home and abroad. The very grave handicap of indebtedness has to be removed by providing cheap capital and favourable terms for repayment. Attempts should be made to introduce standard weights and measures throughout the country. The cultivator has to be educated into a knowledge of the value of grading and standardisation so that he realises that only by these means his goods can fetch a higher price in foreign markets. Adulteration has to be stamped out and liberal provision made for the building of warehouses and

storage accommodation. Insurance of goods against various forms of risk has to be enforced, market financing fostered and developed and information regarding crop reports and market price quotations made available to the cultivator in his own vernacular so that he may be guided properly in his future action.

Responsibilities of Government and Public. A larger part of this work has to be shouldered by Government. Prevention of adulteration and enforcement of standardised weights and measures must be primarily the concern of Government. The Government must appoint provincial marketing officers to collect and co ordinate marketing information and make it available to the producers. Government should also help to establish marketing boards in each province on a regional basis to work in co-operation with the marketing officer. In order that the producer may have a common place for discussion of such problems as finance, production and marketing, regional agricultural chambers have to be established. Thus, it is clear, that in the organisation or marketing in India the Government and the people have to take their proper share: the people by establishing co-operative sales societies and by co-operating in marketing boards and in the collection of marketing data and the Government by introducing penal and preventive legislation and by the appointment of marketing officers and by the provision of storage and transport facilities.

Conclusion. There are those who look with suspicion on every extension of Government activity and look upon it as an infringement of age-long rights. While half-hearted legislation and tinkering with one or two aspects of marketing is to be deprecated increasing interest of Government in the economic ordering of the people is to be welcomed. The days of laissez faire and individualism are long gone by and a progressive state can justify its existence only by keeping abreast of the increasing needs of the highly complex conditions of today ; and in no direction is wisdom and right planning more necessary than in the organisation of agricultural marketing.

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THE MARKETING OF NILGIRI POTATOES

BY S. DORAISWAMY AYYAR, B. A.

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Potato growing in the Nilgiris is over a century old. Except for a few persons who grow potatoes on a large scale employing hired labour, potato growing is chiefly confined to the Badagas who form the bulk of the population in the Hills. They generally put their own labour and cultivate small areas. In their holdings near the village, forking of the land is done by the male members and practically all other operations are done by the female members of the family. For cultivation of large areas away from the village, groups of 4 to 20 persons according to the extent of the land, take up joint cultivation. In case of need, men and women coolies are also employed. This is very common in bringing into cultivation new jungle land. This involves considerable labour and expense, but, if conditions are favourable, bumper crops are obtained from such new lands.

From the time of the Great War the production of potatoes has been increasing. The pre-war price of potatoes ranged between Rs. 6 and 10 per bag of 190 lbs. but during the war years, the price increased to even Rs. 25 per bag. Thereafter the prices declined steadily and from 1932 the price has been ranging between Rs. 3 and 8 per bag. In spite of the low prices realised, production has been increasing during the past five years. In 1930 the production was about a lakh of bags valued at about Rs. 10 lakhs, while in 1934, it must be over 3 lakhs of bags valued at about Rs. 15 lakhs. Although potato growing is becoming unprofitable the area under potatoes has been increasing. The reasons for this paradox are the increasing unemployment among the Badagas and their chronic indebtedness. They are, as a rule, not thrifty and are invariably heavily indebted to some potato or provisions dealer or to some middleman who finances the crop. For growing potatoes they put their own labour and generally preserve the required seed from a previous crop, and, the only thing required is the fertiliser, which they are able to get on credit from one of the dealers financing them as the latter are given credit facilities by Fertiliser firms. The Badagas expand the area under potato in the expectation of getting better crops and better prices with a view to reduce their indebtedness and the dealers are financing them in the hope that their previous out-standings would be realised.

Owing to the peculiar topographical features of the district the cost of cultivation is high. The use of ploughs and cattle is unknown. The use of cattle manure except for lands near the village, which are frequently cultivated, is practically unknown. The cost of production depends on several factors which are very variable and it ranges

between Rs. 3-8-0 and Rs. 5-8-0 per bag. It is very doubtful if it can be reduced to any large extent. In order that potato growing may be profitable efficient marketing is the only remedy.

For over 50 years Mettupalayam has been the centre of potato trade. Until a few years ago there were only about a dozen *mandies* at Mettupalayam. But during the past five years the number has been increasing and now we have 25 *mandies*. Most of them are financed by the Multani bankers of Coimbatore in the shape of three months' bills.

Besides these there are some middlemen who buy potatoes from ryots and sell to the merchants either on commission or with some profit. There are also some middlemen who finance the ryots and take their crop and supply to the Mettupalayam *mandies* getting commission both from the ryot and from the *mandies*.

There are some disadvantages to ryots in having Mettupalayam as the Potato market. Potatoes are taken there in lorries at a cost of 8 annas to 14 annas per bag and with the lorry the ryot also goes to Mettupalayam where he gets the opportunity of indulging in alcoholic drinks which he cannot get in the Hills, as sales of alcoholic drinks to Badagas is prohibited. Sometimes he goes to Coimbatore also and enjoys life there. In these ways a large portion of his profit is wasted.

Another disadvantage is that at Mettupalayam potatoes from all parts of the district are received and very often supply far exceeds demand as a result of which price drops. Potatoes once taken to Mettupalayam cannot be brought back and as it is not possible to keep them there for some time they must be sold at any price. This loss can be avoided if the potato market is in the Hills where they can be kept for some months.

Attempts to market potatoes direct from the Hills in the past were not successful. The Nilgiri potato growers' Co-operative Society started in 1923 worked for about a couple of years but failed primarily due to want of loyalty from members.

This year the South Indian Railway introduced favourable rates for despatches of potatoes direct from the Nilgiris. Taking advantage of this a prominent merchant has started business on a very large scale at Ootacamund. The Mettupalayam merchants have been antagonistic to this move. Their chief argument is that potatoes cannot be properly cleaned and graded in the Hills as in that climate the defects will not be visible. They claim that only if the potatoes are taken to Mettupalayam and kept there for a couple of days that the diseased potatoes can be picked easily. This theory has been exploded as the number of complaints against potatoes sent from Ootacamund to distant places was only a small fraction of those made against despatches from Mettupalayam. The Mettupalayam merchants explain

this by saying that this year, quite unusually, there was no rain in the months of July and August in Ootacamund. During the past two months another merchant is making despatches direct from Ketti.

Of course, there are some disadvantages in carrying on the business direct from the Hills. Ootacamund must be the chief centre. Here suitable accomodation is very difficult to get and, for storing, grading and despatching of potatoes bungalows have to be improvised and rents for these are very high. Wages and carting charges are also high and skilled and experienced labour is difficult to obtain. Moreover, in order that a market may be established, there should be at least some half a dozen merchants doing the business in one place. It is only then that steady prices would be possible and there would be healthy competition.

Potato growers will certainly be benefitted to a large extent if the potato trade shifts from Mettupalayam to the Hills. Supply and demand can then be regulated more easily and the best price possible can be obtained. The Railway authorities are co-operating with those who are interested in shifting the business to the Hills in order to encourage traffic over the Nilgiri Ry. With Mettupalayam as the trade centre potatoes are taken there in lorries and the Railway loses the traffic.

The role of the potato *mandies* is professed to be that of a commission agent for sale of potatoes entrusted to them by ryots. The potatoes are brought to the *mandy* by the ryot and they are graded in 2 or 3 days. The careful ryot may supervise the grading and weighing but most of them do not so supervise but are content with the grading and weighing done at the *mandy* as they would be enjoying the life at Mettupalayam or Coimbatore. The grading is done by women who get 6 pies per bag and the potatoes brought by the ryot are sorted into 3 or 4 grades. After grading and taking the out-turn a statement is made out showing the number of bags in each grade, the rate per bag and the amount credited to the ryot's account and also the amounts debited to the account for lorry hire, charges for handling and grading at one anna per bag, charity three pies per bag, hire for gunnies if supplied by the *mandy*, at 6 pies per gunny, postage 0—1—3 for every statement, even if the statement is handed over to the ryot in person, and the amounts paid to him during his stay at Mettupalayam. This statement is handed over to the ryot. He then returns home and after a few days, generally a fortnight, he goes to Mettupalayam for money which he gets in 2 or 3 days.

It is supposed that the rates given in the statement for the different grades represent the prices at which they are sold to out-stations less a commission of 8 annas per bag. But in actual practice this is

not the case. Practically it represents only the price at which the *mandy* bought from the ryot for sale to consuming centres.

The terms of business under which sales are made to the merchants in the consuming centres vary considerably. When supplies exceed demands despatches are made on consignment account even if there are no instructions from the buyer. But when supplies are slack despatches will be made only on definite orders. 15 to 30 days' credit is also allowed to known customers. In other cases, the rail receipts are sent by V. P. P. or through Bank. The invoice to the buyer will contain particulars regarding the number of bags in each grade, the rate per bag and the value plus cost of gunnies at 4 annas each, cart-hire and handling charges at 0-2-3, charity 3 ps., and station expenses 6 ps. per bag, the railway freight paid and the postal charges. In the case of despatches on consignment account the price noted in the invoice will be 6 to 8 annas more per bag, as the seller has to be paid commission. The seller sends a statement of account showing the actual out-turn and the value realised by sales less his commission.

Although potatoes have come to be grown practically throughout the year in Ootacamund area there are four well defined seasons for potato growing. The major crop is sown in March-April and is harvested in July-August. Owing to the vagaries of the monsoon it happens that crops in some places suffer badly from want of rains or excessive and untimely rains as a result of which the crop gets diseased and has to be lifted prematurely. If there is no rain after the second earthing up of plants, as it happened in Kotagiri area this year, the potatoes are attacked by worms. If there is too much rain in the last stages of the crop, lowlying places get water-logged and the potatoes begin to rot if they are not lifted prematurely. The immature potatoes have ruffled skin and in handling and transit the skin is rubbed off leaving the potatoes to rot easily.

Besides the dumping of immature and bad potatoes a large quantity of good potatoes also is dumped into the market by ryots who are keen in converting the crop into money quickly and by ryots who have no facilities for storing their crop. It is estimated that nearly half the production is marketed during the months of July and August. Owing to dumping prices drop considerably. The *mandies* are faced with the problem of getting rid of the large stocks. In their anxiety to dispose of their stocks quickly they even compete with each other and very often potatoes are sent to consuming centres on consignment account. In one and the same town the same merchant may get such consignment stocks from two or more *mandies*. Dumping occurs in consuming centres also. The merchants take undue advantage of the situation and complain about bad quality, considerable wastage, want of demand etc, and often sell the stocks at low prices and on credit. Thereby the Mettupalayam *mandies* suffer heavy loss and

they also get the sale proceeds late. In most of the consignments sent out in July and August the *mandies* incur some loss. It is said that this year the losses were about Rs. 50,000. This heavy loss is recouped by them by maintaining artificially low prices to growers in September and part of October during which period supplies available at Mettupalayam steadily decline and even though good prices are obtained from consuming centres the grower is paid less. During this period sending stocks on consignment account is not resorted to.

From about the middle of October ryots would cease taking their potatoes to Mettupalayam and the merchants are then obliged to go to the Hills to buy their requirements. It is then that good prices are obtained. Large growers who employ hired labour begin to sell their stocks. The *Adi* crop which is sown in June-July is harvested in November and this is also sold at fairly good price. Such buying by merchants will continue until the end of December or middle of January when another crop sown in August-September will be harvested. This crop is mainly intended for the production of seed for the Major crop. It is a very precarious crop as it is liable to be damaged by frost or by excessive rains. In spite of this the area which used to be only about one-half of the area under the major crop has been increasing very rapidly during the past three years. The surplus remaining after taking the seed is sold from January onwards. At this time there would be some competition from Bangalore district but if it is not severe fairly good prices are obtained. The sales will continue until the end of April. In January-February a crop is sown on a small scale on swampy soils, which have facilities for irrigation. This crop is harvested in May-June. As at this time, stocks will be low, good prices will be obtained.

The principal markets for Nilgiri potatoes are Madras and the important towns of South India, Secunderabad, Bombay, Colombo and Calcutta. The importance of the markets outside our Presidency has been declining owing to the increased local production and to the increased import of potatoes from Italy, East Africa, South Africa, Australia, Japan and Burma.

In Bombay Italian potatoes are imported on a large scale both for human consumption and for seed. Only if the supply is delayed by late arrivals of steamers that there is any chance for Nilgiri potatoes. Even then the price paid for the Nilgiri potatoes is only about the same as that paid for Italian potatoes. The Italian potatoes are invariably purchased outright by the wholesale merchants but they deal in Nilgiri potatoes generally on consignment account. Only when supplies are scarce that they buy it outright. In case they find necessity for Nilgiri potatoes they telegraph to the merchants here the prevailing rates and ask them if they could send on consignment account. If the rates are favourable and if available supplies are large

consignments are sent. Even if the rate is not very favourable some merchants who are in need of ready money send consignments. When a consignment is sent, the seller draws a *hundi* on the buyer to the extent of two-thirds or more of the value and this *hundi* is discounted by the Multani bankers of Coimbatore so that the merchant gets money quickly. For this reason, and because it is a very large consuming centre, merchants are always keen on getting the Bombay business. It will be a great boon to potato growers of the Nilgiris if the Government would restrict the import of potatoes from Italy by the imposition of suitable duty. Representations have been made to the Government but so far nothing has come out.

Calcutta is also a very large consuming centre but this market has been practically lost to us because of the increased local production and the increased production in Shillong and increased imports from Burma and lately from Japan. Another drawback is the heavy Railway freight. There is no possibility of securing any large portion of the business in Calcutta for Nilgiri potatoes under these circumstances.

In Colombo, potatoes from Africa, Australia and Italy are imported. The chances of Nilgiri potatoes competing with these are few unless the duty on potatoes of Re. 1 per cwt. imposed by the Ceylon Government is abolished in the case of Nilgiri potatoes and the Railway authorities allow substantial concession in freight. If these are secured Colombo would be a very suitable market for Nilgiri potatoes.

Nilgiri potatoes get chances at Secunderabad when the local production is all used up and getting potatoes from Bangalore is not economical. This market cannot always be relied upon.

It is to Madras that potato merchants look for a steady market for the Nilgiri potatoes. Although potatoes from Burma were imported into Madras last year and although there is the danger of such imports being resorted to at any time, yet by taking concerted action the potato dealers can avert such import. The demand in Madras varies from 200 to 300 bags a day according to price. What is required for the Madras market is cheapness. Quality is not of importance. During the months of July and August it is the Madras market that enables the Mettupalayam merchants to dispose of large quantities of immature and bad potatoes which are dumped then. During this period the potato merchants in Madras get supplies invariably on consignment account. The prices realised are sometimes very low. On many consignments there is loss. Very often the merchants indulge in competition and price cutting is also resorted to at the expense of the Mettupalayam merchants.

It is in the other large towns of South India that the potato business is somewhat safe and profitable. Except in some places the

demand is for potatoes of good quality and size. Fair prices are obtainable. Of course in the months of July and August it would be necessary to send potatoes on consignment account in which case there would be the inevitable losses referred to above. But in other months the business is comparatively safe and profitable. But the off-take is only a fraction of the total production.

The greatest hindrance to the successful marketing of Nilgiri potatoes is the utter lack of organisation among the growers and among the merchants. The growers should be made to feel that their indiscriminate taking of good and bad potatoes to Mettupalayam without any attention being paid to the demand and supply is harmful to their interests and they should avoid taking their produce to Mettupalayam at all, but, endeavour to create such a situation that the Mettupalayam merchants have to go to them for supplies required for their business. This will not in any way injure the business of the merchants. The growers should be educated in the importance of grading and in the need for maintaining the quality of the produce in order to get better prices. They should also be educated to make more use of potatoes for their food than is at present done. Besides all these they must improve their methods of cultivation and above all they should cultivate habits of thrift. The Nilgiri Agriculturists' Association which was formed last year must take active interest in doing propaganda on these lines.

There is no really good organisation among the potato dealers at Mettupalayam. Though some sort of Union is in existence the members do not act up to the rules framed by them. When supplies of potatoes are very large the dealers compete among themselves. If there is a really good organisation the need for sending out potatoes on consignment account to consuming centres will not arise and they can always expect to get definite orders and at fair prices. The dealers get their money from consuming centres only with delay and it was only a year ago that many merchants lost large sums on account of the insolvency of a potato merchant in Madras. If they have a real Union steps can be taken to refuse supplies to one who had defaulted in payment towards a member of the Union. By doing this, losses can be avoided. If there is a real Union distribution can be efficiently regulated by allotting particular markets to particular dealers, who can then have no competition to face and can do everything possible to develop the market in the areas allotted to them. In this way consumption can be increased and thereby production can also be increased.

At present the price to the actual consumer is rather very high when compared with the prices paid for other vegetables and this is one of the reasons for the poor consumption of potatoes. If there is a good organisation arrangements can be made to bring the price to the consumer as low as possible and thereby consumption can be increased.

With such organisations and with the help of the Government it must be possible to provide suitable storage accommodation in the different centres in the Nilgiris so that there may be no need for dumping the market at any time. If possible, potato markets may be established at some of the centres in the Hills.

Greater attention must be paid to the grading of potatoes for the market and the marketing of immature damaged and diseased potatoes must be discouraged. Research work should be undertaken immediately on the utilisation of such potatoes, as are unfit for marketing, in the manufacture of industrial alcohol. The question of making starch may also be considered as there is said to be some demand for potato starch in the cotton mills of Coimbatore District. If these are commercially possible then there is a very bright future for Nilgiri potatoes.

Now that the question of the marketing of agricultural produce has assumed very great importance it would be worth while investigating the conditions under which the Nilgiri potatoes are marketed so that the necessary action may be taken by the Government with the co-operation of growers, dealers and others interested in putting the marketing on a sound basis thus enabling the growers, middlemen and consumers to get reasonable profit.

SOME ECONOMIC ASPECTS OF THE MARKETING OF AGRICULTURAL PRODUCE IN INDIA.

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Introductory. It is a matter of happy augury that the organisers of this Conference have directed our attention to such vital problems as 'Marketing' and 'Irrigation'. The Royal Commission on *Agriculture in India* remarked: "The Agricultural Department in India have regarded the problems connected with the marketing of the cultivator's produce as generally outside their purview." Their valuable services for improving the quality and increasing the output of his crops have therefore been rendered infructuous by his inability to dispose of his produce at a profit. But quite recently there has been a change in the attitude of the Government Departments. Thanks to the recommendation of the Royal Commission and the deplorable effects of the present economic depression, the question of marketing has now come to the forefront. A marketing officer has recently been appointed in our province and he is just now touring the country to learn the needs of the agriculturists and devise methods of improving his bargaining power. A discussion on 'Agricultural Marketing' is therefore quite opportune at the present moment.

Transition in Indian Agriculture. In days of yore, when the cultivator raised crops either for his own use or for sale in his own village or in the neighbouring fair he had not to face the problems of marketing. In the latter cases, selling his produce was as much a pastime as a business. But now things have altered. He is producing articles which he cannot use himself nor sell to his neighbours. He is a producer for more distant markets in or outside the country. He has to get the best price for his crop; otherwise, he will have to starve or forego his comforts. He has had to borrow money for his cultivation expenses and should repay it before he can meet his own wants. Thus economic motives come to influence his conduct. He is compelled to seek the best market for his crops and to make the best bargain in it. It is worth his while to study the art of sale either as an individual or through combination with other producers. The benevolent department of agriculture and co-operation which have been assisting him to get funds for cultivation and to produce the best crops on his land must needs teach him also the art of marketing his produce.

Marketing both an Art and a Science. Marketing is a difficult art not only to the Indian peasant cultivator but even to the capitalist farmer of the West, as the present world depression has shown. It is not only an Art but also a Science, though its scientific character has come to be recognised only quite recently. In its latter aspect it is a branch of Economics. The main function of the Economist is to explain how things come to be sold at the current prices, why prices vary from time to time and from place to place, and how far these changes could be regulated or at least foreseen. In the long run prices of articles are closely related to their cost of production. In computing the cost, we have to include the charges for marketing. In fact, the latter may often exceed the prime cost of producing the article, the original producer therefore gets only a portion of the price which the final consumer pays for it. This is especially the case in regard to agricultural products whose grading, packing and transport are so difficult. Consequently, the peasant who has produced the crop with the sweat of his brow gets a bare pittance out of the large sum which the final buyer might have paid for it.

The Marketing Process. It is our task now to examine how this comes about. Though at first sight the problem of disposal of the crop may appear to be an easy one, when carefully analysed it involves various knotty issues. Even in the case of such a single commodity as paddy, there is first the question of removing the husk. The days when it used to be done by the buyer in his own house are now gone. In the case of cotton, for example, this is a more elaborate process—the seed has to be separated from the lint in a ginning factory. Next come the tasks of sorting, grading and packing. These

processes may sometimes be performed by the cultivator himself but more often they have to be done by the trader. The next function in marketing is what is known as 'Merchandising' i. e., getting information about the whereabouts and the tastes of the consumers and establishing contact with them. Then comes the problem of transport which involves two questions, the nature of the means of communication and the mode of conveyance. The next group of functions are warehousing, financing and risk-bearing. Often the produce has to be stored up for some time and that necessitates the locking up of funds and involves risk of loss due to various causes. Last comes the actual process of sale which may be direct or indirect, for cash or credit.

The place of the Middle man in Marketing. From this bare enumeration of the various steps in the process of marketing, it will be evident that the cultivator is hardly in a position to perform them all, by his own unaided effort. Especially when he has produced a commercial crop and the demand for it comes from a distant place he is compelled to employ middle men—nay their assistance becomes so important that he himself becomes as it were their agent or contractor. He has to agree to hand over his produce to them irrespective of the price and accept what they finally choose to pay him. This cannot be helped. The Royal Commission has well explained this point. They say: "In the economic organisation of the modern world, the middle-man fulfills essential functions and neither in India nor elsewhere is it possible to dispense with him. Collection and distribution and the accomodation of supply to demand between locality and locality are everywhere complicated processes which would be impossible of performance without the skilled services of those who spend their lives in the business. In no country are these difficulties greater than in India, where communications are often extremely bad and where production is in the hands of a large number of petty cultivators who, for the most part, lack both the financial resources and the necessary storage to attempt any regulation of their selling in accordance with the state of the market and whose produce, as marketed, leaves much to be desired both as regards purity and quality".

Other Modes of Sale. Though we have to recognise the leading part of the middlemen in marketing as a whole we should not exaggerate his importance. First of all, in regard to certain forms of agricultural produce the farmer is able to get into direct touch with the consumer either in his home or in the daily market or weekly fair-(*Shandy*). The turn-over of goods in the last place is sometimes very large e. g., at the weekly fair at Pollachi several thousands of rupees worth of goods are bought and sold. Secondly what the cultivator cannot do singlehanded he may attempt to accomplish by combination, by becoming a member of a Co-operative Society, organised for the purpose of selling the kind of crops he raises.

Thus, there are three methods available to the agriculturist for disposing of his produce: (1) Direct sale to the consumer; (2) By co-operative sale to societies, and (3) Through middlemen.

Economic considerations determining the mode of Sale. In choosing one or other of these methods, he will have to pay attention to his own economic position, the nature of his crop and the location of the market. For the most part Indian agriculturists are small farmers lacking capital, wanting in enterprise and woefully ignorant of the conditions of the world round them. Many of them cannot even read a vernacular newspaper. They are so impecunious that they cannot afford to wait even for a few weeks to dispose of their crops. Many of them are compelled to mortgage their crops actually standing in the field; hence the rise of the middleman.

To turn our attention to the character of the crop if it is a perishable article it will have to be sold as quickly as possible in the nearest market for whatever it will fetch. This is the reason why the price of fruits differs so much even in adjacent places. Again articles of food can be disposed of directly to the consumer more easily than raw materials for industry. Similar differences arise from the seasonal or perennial character of the supply, the possibility of immediate use or the necessity for previous manipulation etc.

Another group of considerations arises from the importance of the article in the farmer's economy—whether it is a main crop or a subsidiary crop, whether it is an occasional or a regular crop, whether it is suitable for his own use or fit only for sale. For example, the method of sale available for the disposal of paddy is not suitable for that of chillies or green gram.

Lastly the situation of the market where the article has to be sold also influences the mode of its disposal. If the market is adjacent the difficulties of packing, transporting and warehousing are not too great for the farmer to overcome by his own effort. If it is distant, it is otherwise. Middlemen become quite necessary and often their number is in direct ratio to the distance of the market.

The amount of profit to the farmer will be determined by the method which he adopts. Generally it will be greatest when he deals with the consumer directly and least when he goes through middlemen. Every improvement which enables him to get into close contact with the consumer is therefore wholly to his advantage.

Proposals for the Improvement of Marketing Conditions.

(1) The improvement of *communications* is the first reform that the Royal Commission recommended, and as we know, effective steps are being taken all over India to carry it out. The Central Government, the Provincial Governments and Local Bodies have been co-operating

in the fulfilment of this essential task. Easy means of communication and cheap means of transport will enable the peasant to reach the consumer directly, and where for other reasons he is not able to do so will facilitate the functioning of co-operative sale societies and reduce the number of intermediaries whom he may have to employ, as the last alternative.

(2) The establishment of a sufficient number of *well-regulated markets* is the next suggestion made by the Royal Commission. But as has been remarked by a writer, there are certain conditions to be fulfilled by the cultivator's produce before it can be the subject of dealing in an organised market. It must be sufficiently durable to enable stocks to be kept for a reasonable length of time when the market is unduly depressed. Secondly the article must be one which can be numbered, weighed or measured with accuracy obvious to all. Thirdly, its quality or grade should be capable of a ready test: it is only then that dealing by sample is possible. Lastly, the dealings in the produce must be sufficiently frequent to occupy large bodies of buyers and sellers. Of all these conditions the third is perhaps the most important for the staple crops and it is in regard to it that much leeway has to be made in our country. The methods of cultivation are such that dealing by sample and grade is rendered almost impossible. The Department of Agriculture in our own Province has done much to improve the quality of cotton and define its various grades but in regard to other crops, little or nothing has been done. Without such preliminary work the recommendation of the Royal Commission that "the system of regulated markets should be extended to products other than cotton" cannot be carried out.

(3) The organisation of *Co-operative Sale Societies or Loan and Sale Societies* as they are sometimes called is the next piece of reform. As the Royal Commission has put it: "Group marketing must be more efficient than marketing by individuals, especially in conditions such as those which exist in India, where the individual producer is such a small unit". But here also progress has been extremely slow. For, our cultivators have to be educated to understand their own interests and to feel the need for and appreciate the value of associated effort. Another requisite for the success of co-operative sale societies is the existence of a sufficient volume of business to make for efficient management. Skilled technical advice and guidance are necessary for their organisation and working as well as an honest and well-informed managing committee. Such qualities cannot be expected in small village societies functioning independently of one another. If they are members of a central or federal society, their chances of success will be increased.

(4) Finally, we have to turn to measures which, while recognising the importance of the middleman, will prevent him from dominating

the cultivator. The provision of warehouses, the publication of up-to-date information regarding prices, stock on hand, crop forecasts etc., the standardization of weights and measures and the elimination of unnecessary intermediaries are other ways of improving the bargaining power of the agriculturists. The last point requires some explanation. The normal system of sale is a three-party system—the producer, the wholesale dealer and the retailer. But in the marketing of agricultural products owing to the small scale of production the dispersion of the producers and the seasonal and other variations in the quantity and quality of the produce often lead to the growth of one or more intermediaries, one between the producer and the wholesaler and another between the latter and the retailer. These may perform one or other of the necessary marketing functions already mentioned—finishing, sorting, grading and packing or transporting or warehousing and financing etc. But often the middlemen are merely brokers who connect the wholesaler with the producer on the one hand and the retailer with the wholesaler on the other, or sometimes the producer with the retail merchant directly. They may be rendered superfluous by a more efficient system of marketing. Often, it is for want of proper market information or communications or storage facilities that the producer or the trader is compelled to have recourse to these brokers. As better facilities in these directions come to be provided they will be rendered unnecessary. But before any useful suggestions could be offered to eliminate unnecessary intermediaries *market surveys* have to be made more thoroughly and systematically than have been done so far in our province. As the Royal Commission held, this is eminently a piece of work for the Provincial Department of Agriculture in collaboration with the Economics Department of the Universities or other Academic Institutions. Thus the Union under whose auspices we are met here to-day may well participate in the work. In fact the students of the Agricultural College, both past and present, should regard the study of Marketing as a subject intimately connected with their normal pursuits. It will be a source of pleasure and in the long run of profit as well.

College News and Notes.

Student's Tour. The students of Class II were on tour from 4th to 19th January with Messrs. K. Raghavachariar, P. N. Krishna Iyer, and E. K. Nambiar, visiting Nandyal, Guntur, Madras, Palakuppam, Trichinopoly, Aduthurai, Dindigul and Udamalpet, places representing the Ceded Districts, the East coast, the central districts respectively. The places visited gave an idea of almost all the crops grown in the presidency in large areas and the tour was extremely useful and instructive.

Athletic activities. Foot-ball is now the game of the season and several matches in connection with the Muthuswami Memorial Inter-tutorial Foot-ball tournament were held. Games and preliminary matches in connection with the Student's Club Day are also in progress.

Indian Science Congress. Rao Bahadur G. N. Rangaswami Iyengar, Mr. K. Ramiah, and Dr. T. V. Ramakrishna Iyer attended the 22nd session of the Indian Science Congress at Calcutta from 2nd to 7th January 1935.

Association of Economic Biologists. The Annual General Body Meeting of the Association was held on Wednesday the 23rd January, when after tea, the annual report was passed and the following office bearers were elected for the current year: Mr. K. Ramiah, *President*. Mr. V. Ramanathan, *Vice President*. Mr. J. S. Patel, *Secretary*. Messrs. N. L. Dutt and M. C. Cherian, *Committee Members*. The retiring president Mr. N. L. Dutt gave an address on 'Recent advances in sugarcane breeding in India'.

The Officers' Club. The Annual General Body Meeting was held on Thursday the 31st when the following office bearers were elected for the current year. Mr. K. Krishnamurthi Rao, *President*. Mr. M. C. Cherian, *Vice President*. Mr. K. Krishna Menon, *Secretary*. Mr. C. V. Nagarajan, *Assistant Secretary*. C. S. Krishaswami, M. K. Krishnaswami and M. S. Kailasam, *Committee Members*.

Radha Kalyanam. This annual function was celebrated as usual by the *Thannurmasa Bhajana* devotees on 27th January.

Scout activities. The Estate Scout troop partook in the Scout Week celebrations in Coimbatore from 19th to 26th January. At the All-Coimbatore Rally in the Coronation Park on 26th a strong contingent of Rovers, Scouts and Cubs from the Agricultural College participated and the Suspension Bridge constructed by our troop and on which the collector and other visitors walked across, attracted a great deal of interest and attention.

Lectures. Under the auspices of the Students' Club Mr. P. N. Venkata Rao, Student B. Sc. III spoke on "Certain aspects of Irrigation" with Rao Bahadur D. Ananda Rao Garu in the chair. There were two lectures under the auspices of the Association of the Economic Biologists during the month on the 5th and on the 28th, when Dr. R. D. Rege, Crop Physiologist, Padegaon, Bombay Presidency and Dr. T. A. Daji, Officer in charge of the soil investigations of the Sholapur Dry Farm, spoke respectively on 'The problems of the Deccan canal tracts in Bombay' and "The decomposition of green manure in soils".

Marketing officer. We are glad to note that three of our old boys Messrs. H. C. Javarayya, C. B. Samuel and K. C. Kumaraswami Chetty have been appointed, the first two as senior marketing officers and the last as an assistant marketing officer.

Weather Review (DECEMBER—1934)

RAINFALL DATA

Division	Station	Actual for month	Departure from normal	Total since January 1st	Division	Station	Actual for month	Departure from normal	Total since January 1st	
Circars	Gopalpore		-0.7	44.7	South	Negapatam	2.2	-9.3	37.1	
	Berhampore*			33.2		Aduthurai*	0.8	-9.1	31.2	
	Calingapatam		-0.6	25.0		Madura	0.1	-1.6	24.8	
	Vizagapatam	0.5	-0.1	33.7		Pamban	3.3	-4.2	33.5	
	Anakapalli*		-0.3	34.7		Koilpatti*	0.6	-2.1	23.7	
	Samalkota*		-0.3	36.0		Palamkottah	0.9	-3.1	24.8	
	Maruteru*	0.9	+0.3	29.3						
	Cocanada	0.1	-0.8	40.5		West Coast	Trivandrum	0.1	-1.4	56.2
	Masulipatam	0.1	-0.7	35.2			Cochin		-1.2	97.9
Guntur*		-0.8	33.5	Calicut	0.4		-0.8	108.3		
Ceded Distrs.	Kurnool		-0.5	20.3	Pattambi*			-1.4	89.7	
	Nandyal*		-0.3	27.0	Taliparamba*			-1.0	131.0	
	Hagari*		-0.2	14.8	Kasargode*		0.1	-1.1	121.5	
	Bellary		-0.1	14.4	Nileshwar*			-0.8	126.5	
	Anantapur			9.2	Mangalore		0.4	-0.1	116.5	
	Cuddapah	0.2	-0.6	23.5						
Carnatic	Nellore	0.7	-2.4	20.6	Mysore and Coorg	Chitaldrug		-0.4	26.8	
	Madras	2.2	-3.6	36.7		Bangalore	0.2	-0.3	24.7	
	Palur*					Mysore	0.1	-0.3	36.4	
	Palakuppam*	0.9	-4.8	36.6		Mercara		-0.7	109.4	
Cuddalore	2.6	-4.6	54.9							
Central	Vellore	0.3	-2.4	40.7	Hills.	Kodaikanal	1.1	-3.3	55.1	
	Hosur cattle farm*	0.1	-0.8	24.8		Coonor	2.8	...	53.9	
	Salem	0.2	-0.8	34.6		Ootacamund*	0.2	-3.1	43.9	
	Coimbatore	0.6	-0.6	20.2		Nanjanad*	0.1	-1.9	40.1	
	Coimbatore Res. Inst.*	0.4	-2.0	22.6						
	Trichinopoly	0.4	-2.2	26.1						

* Meteorological Stations of the Agricultural Department.

Summary of General Weather Conditions.

Weather during the month was marked by successive series of western disturbances that affected the North Western Frontier Province, Beluchistan, Kashmir, North Punjab and the West Central India. The first disturbance occurred on the 1st causing cloud and rise in temperature along North Western Frontier Province and passed away eastwards through the extreme north on the 5th. A second disturbance appeared on the 5th and persisted over Beluchistan and causing light showers in North Western Frontier Province moved eastwards and disappeared on the 13th. But a fresh disturbance began to effect the weather over Beluchistan on the 13th and this was followed by a series of disturbances on the 15th, 17th, 20th, 22nd, 24th, 29th, and 31st instants. They caused widespread rain along the North Western Frontier Province and local rain in Beluchistan, Kashmir and North Punjab. The disturbance which appeared on the 15th formed into a "Low" over North Western India and strengthened by the disturbance on the 17th caused widespread rain in Kashmir and along the Punjab Kumaon hills.

Weather was dry over the country except for light local showers in different parts of the country. Local thunder showers occurred in West Central India and West Central Provinces on the 28th.

Night temperatures were below normal from North Deccan to Orissa and Chota Nagpur between the 1st and 3rd while in Burma the temperatures were markedly below normal till the 11th.

With the exception of Maruteru, rainfall was markedly below normal in the whole of the Presidency.

Weather Report for the Research Institute Observatory.

Report No. 12/34.

Absolute Maximum in shade	85°0'F.
Absolute Maximum in shade	57°4'F.
Mean Maximum in shade	82°9'F.
Departure from normal	- 2°0'F.
Mean Minimum in shade	63°9'F.
Departure from normal	- 1°9'F.
Total rainfall	0·36"
Departure from normal	- 1·97"
Heaviest fall in 24 hours	0·27"
Total number of rainy days	1
Mean daily wind velocity	3·1 m. p. h.
Mean humidity at 8 hours	80·2%
Departure from normal	+ 0·5%
Total hours of Bright Sunshine	220·8
Mean daily hours of Bright Sunshine	7·1

General Summary:— Rainfall is in defect by 2" and both maximum and minimum temperature are below normal by 2°F.

Departmental Notifications.

D. A's Office Orders. P. Narayana Nair, Upper subordinate iv grade (provisionally substantive) to be permanent in the iv grade. V. Satagopa Iyengar, Upper subordinate iv grade (Temporarily substantive) to be permanent in the iv grade. K. L. Ramakrishna Rao, Assistant, Nadan Cotton Scheme, Perundurai on return from leave, will rejoin duty at the A. R. S. Koilpatti. R. Krishnamurthi, offg. Assistant, Cotton section, Coimbatore transferred to Perundurai for work in the Nadan Cotton Scheme. T. V. Rangaswami, Assistant, A. R. S. Koilpatti, transferred to Coimbatore vice K. L. Ramakrishna Rao. R. Ananda Padmanaba Pillai A. D. vi circle transferred to ii circle. The Government have among other staff sanctioned the appointment of two senior Assistants in Chemistry for carrying out a Soil survey in the Tungabhadra project for a period of 15 months from 1st December 1934. The appointments are to take effect from 17th December 1934. G. K. Chidambaram Assistant Chemistry section, Coimbatore, to be senior assistant. C. Raghavendracher, Assistant, Chemistry section Coimbatore, to be senior Assistant. While employed on the scheme both the Assistants will draw the pay admissible to them in the regular line from time to time. F. L. Daniel, Offg. Upper Subordinate, iv circle, to Coimbatore to officiate as assistant in the Chemistry section. K. Ramanatha Reddy Officiating Upper subordinate, iii circle, to Coimbatore, to officiate as Assistant in the Chemistry section. The Government have among other staff sanctioned the appointment of 8 Assistants in the Chemistry section on Rs. 75 per mensem for

carrying out a Soil survey in the Tungabadra Project area for a period of 15 months from 1st December 1934, and the following are appointed temporary assistants in Chemistry (1) S. G. Aiyadurai, (2) W. Tirumala Rao, Village investigator, Thummapala (3) M. Rami Reddy, (4) K. Tejappa Shetty, (5) V. V. Jaganatharao temporary Fieldman, Rice Research Station, Berhampur, (6) M. Subba Reddy (7) K. Venkataswami Village investigator, Anthiyur, and (8) M. Sitarama Raju, The Upper subordinates in the Agricultural Section named below will continue to officiate in the respective vacancies shown against them. M. J. David, from 13-11-34 to 11-12-34 vice N. Krishna Pillai on leave, and from 12-12-34 to till further orders vice P. Subrahmaniam on other duty. L. Krishnan from 22-12-34 till further orders in an existing vacancy. K. Satharishi from 5-11-34 to 4-3-35 vice G. Sitharama Sastri on leave. Muhamad Obaidullah Shah from 16-12-34 till further orders vice P. S. Narayanaswami Iyer on other duty. M. Bhavani Shankar Rao from 7-12-34 to 6-3-35 vice R. Jaganatha Rao on leave. T. Devasikamani from 7-1-35 to 17-3-35 vice M. Vaidyanatha Iyer on leave. Transfers of V. N. Ramunni Kidavu F. M.; A. R. S. Pattambi to VII circle. C. S. Sankaranarayana Iyer A. D. Perintalmanna to A. R. S. Pattambi. K. Govinda Nair. Assistant in the Chemistry section is permitted to return to duty on 21-12-34 before the expiry of his leave. E. J. Varghese will continue to officiate from 22-12-34 till further orders K. T. Bhandari on return from leave is transferred to IV circle for duty. S. Madhava Rao D. A. Kodur, is appointed as temporary Farm Manager, Fruit Research Station, Anantarajapet. C. V. Sundaram Iyer, Assistant, Entomology section, Coimbatore, l. a. p. for 2 months from 21-1-35. Muhamad Basheer is re-appointed to officiate as Assistant in the Entomology Section. T. Lakshmipathi Rao, F. M.; A. R. S. Marutheru on the expiry of his leave on 23-1-35 is posted for district work in the Rajahmundry Division, I circle. The following Upper subordinates named below will continue to officiate in the respective vacancies shown against them:—M. J. David from 1-1-35 till further orders in the temporary post sanctioned. K. Satharishi from 1-1-35 till further orders in the temporary post sanctioned. M. L. Balasundaram, F. M., A. R. S. Maruteru, from 24-1-35 to 17-3-35 Vice M. Vaidyanatha Iyer on leave. T. Devasikamani from 7-1-35 to 13-2-35 to continue in the temporary post sanctioned in the III circle. K. Kuppamuthu from 1-1-35 till further orders to officiate as Upper subordinate in the Agricultural Section Vice P. Subrahmaniam on other duty. Ch. Venkatachalam from 1-1-35 to 4-3-35 to officiate as Upper subordinate, Agricultural Section Vice G. Sitharama Sastri on leave.

Postings and Transfers. S. Muthuswami Iyer, A. D. Siruguppa, to A. R. S. Hagari as F. M. G. K. Subrahmania Iyer, A. A. D. on special duty will join at Krishnagiri after the expiry of his special duty. K. Kuppamuthu, A. D. Krishnagiri will relieve K. C. Thomas from van duty on 3-1-35 at Salem. S. Varadarajulu Naidu A. D. Guntakal is posted for van duty in the Bellary and Anantapur district. P. Kannappa Pillai now working in the central Depot Madura, is posted to Tirupathur. T. Lakshmipathi Rao, F. M., A. R. S. Maruteru is posted to Kovvur sub-circle.

Leave. P. Kannappa Pillai A. A. D. on leave granted a further extension of l. a. p. on M. C. for two months in continuation of leave already granted. B. V. Ramana, A. A. D. Yellamanchili, l. a. p. on M. C. for two months from the date of relief. N. M. Bhukta A. A. D. Vijianagaram, extension of l. a. p. on M. C. for 2½ months in continuation of leave already granted. T. R. Venkaswami Rao, A. D. Tiruvallur l. a. p. for 2½ months from 6-1-35 N. Krishna Menon, Sub Assistant in Entomology Section l. a. p. for 2 months from 5-2-35. T. V. Ayyaswami Iyer, A. A. D. Tirupathur, l. a. p. for three months from 12-1-35.