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Integration of Agricultural Research, Education and Propaganda

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Introduction : The very title of the symposium on the one hand the imperative need for the integration of Agricultural Research, education and propaganda, and implies on the other hand, that at present there is lack of co-ordination among the three aspects of agricultural improvement, to the extent desirable. It needs no mention that for the development of any branch of science, research of both fundamental and applied nature is vital. Research also cannot progress without raking into consideration, the work already done, and the knowledge gained by generations due to agelong experience and observations, however emperical they might be. This is so especially in the case of agriculture, which is not only both an art and science but also a pastime, on which rests the national economy of any country, and ours in particular. Agriculture is a vast subject comprising a veriety of sciences, each one having grown to formidable proportions, requiring special study for considerable periods of time. It is well known that a sound knowledge of Botany, Chemistry, Soil-Physics, Entomology, Mycology, Animal-Husbandry, Agricultural Engineering, Agricultural Meteorology, Economics, etc., not to speak of other sub-branches like Soil-Science, Cyto-genetics· Dairying, Poulty-keeping, Bee-keeping etc., is essential to tackle the problems of agriculture in their true perspective.

Need for Research : Agriculture presents a variety of problems, each one being kaleidoscopic in character ; the more we proble into each problem, the more complicated it appears. It may be argued, however, that agriculture has been going on for thousands of years in this country, apparently without the need for any botheration from the scientists. This argument itself is placed on no solid proof. Agricultural research seems to have been progressing silently in the ages past in an emperical way. Several agricultural practices, which have been handed down for generations and have now been well established in the different localities are only the results of experimentation for ages, probably by hit and miss method. Many of the varieties and types of crops, which were cultivated by the agriculturist

before the advent of modern agricultural research, should have been the results of keen observations of the older generations in picking out natural selections and multiplying them for the benefit of humanity. But, unfortunately, frequent wars, pestilence, foreign domination, and the impact of the industrialised west, have broken the golden thread of continuity of knowledge on matters regarding agriculture. Further, the change in the outlook of the nations, the rapidly growing population in geometric progression, the reduction of the yield of crops in the inverse proportion, change of food habits etc., have augmented the necessity for agricultural research and to place it on a scientific footing, to reorient the agricultural practices, to be in tune with the modern sentiments, with the aim of increasing the production per unit area to meet the ever growing demand of man and machinery.

Need for propaganda : By the experience gained in agricultural research. the agriculturist is introduced to new varieties of crops and new crop rotations, to suit his soils and climate, in order to provide him employment althrough the year and to derive the maximum benefiit from his meagre holdings. But the resources of the soil and the resources of the agriculturist are the greatest limiting factors in the rapid progress of introduction of new techniques. Both those factors work in a vicious circle. Here comes the difficulty of the research worker in putting his laboratory results into actual practice. The transalation of the results of a laboratory on a field scale, and that too in the cultivators' holdings is no easy task. The cultivator need not attach so much importance to a particular aspect of study, as a research worker to his pet problem. Unless the large scale adoption of the promising laboratory results are accomplished the volume of research done in the laboratory will be of no avail to the agriculturist, who is by no means an easy problem to tackle with. He has got his set notions and sentiments with regard to agricultural practices and varieties, and will not tolerate any advice from an outsider, regarding deviation in his practices. It is a very difficult task indeed to tell the cultivator that the practices he is adopting are wrong. The cultivator will be reluctant to discard his practices, which have withstood the test of time, and adopt new ones which are yet to be tested and convinced to *his* entire satisfaction. This kind of deep seated attachment to age-old practices is not peculiar to our own country only. This was found to be a formidable task for Extension workers, even in the ultra-modern country like the United States of America as late as 1910. Considering the above facts the need for suitable propaganda need not be over emphasised.

Need for Agricultural Education: The role of agricultural education is only to bridge the gulf between the research and propaganda sections in agriculture. In the attempts made in this country for the development of agriculture, demonstration seems to have preceded education and research in the opening of a farm at Saidapet in 1865. But it was soon realised that if agricultural improvement was to be substantial, it must be preceded by the creation of a class of men who had received the education and training in methods of farming on modern lines.

Early attempts at integration: There can be no two opinions on the fact that research, education and propaganda are the three main supports on which agricultural progress rests. The need for integration was felt even at the very inception of scientific agriculture in Madras and it may not be out of place to indicate here the early attempts, made at integration. In the opening of this Agricultural College and Research Institute in 1907 a beginning was made for the integration of agricultural research, education and extension. The need for research and demonstration alongside of agricultural education has been stressed by Sir Arthur Lawely and A. E. Castle Stuart, in their opening addresses. Based on the experience gained during the beginning it was felt desirable to place agricultural education on a better footing, so that the students can utilise their knowledge in a fitting manner for advancement of agriculture. That the pioneers in this field had to work hard against odds is evident from the fact that the idea of affiliation of the College to the Madras University, eventhough was mooted out as early as 1900, could be accomplished only twenty-two years later, due to the unaccomodative and unhelpful attitude taken by the University and the Government. When agricultural education was first introduced it seems that even the educated *elite* at the helm of affairs treated it more or less with contempt. The hopes of the promoters of agricultural science was belied, inspite of their ceaseless efforts and enthusiasm in an unsympathetic atmosphere, in as much as the graduates of agriculture did not return to their lands, as was expected, but sought jobs in government service or elsewhere. It was not the fault of the agricultural graduates if they did not go back to their lands. The truth was that agriculture was not profitable and attractive for a new venture. Agriculture, inspite of its being the mainstay of the population, was but a way of life but not profession. With this background the task of extension workers in having to educate and convince the ryot regarding the agricultural improvements can easily be imagined. The economic condition of the ryot was mainly responsible for the

lack of appreciation of the good work turned out by the agriculture extension staff. But, research made rapid strides in several branches and won the admiration of scientists from all over the world. The research worker was absorbed entirely in his work, thrilled by the hope of new discoveries and he had not much to worry about, as he was comparatively better paid than any other technical graduate. On this score, work done by the propaganda division need not be under-estimated. Improvement, especially in the multiplication of improved strains of crops, has been progressing un-noticed, but went without recognition, partly because the improved strains came to be known to the ryots by popular names-and in some places as 'Company' varieties-and partly due to the increased return did not show considerable increase in money value as the then prevailing prices were low.

Integration - Recent trends: As it was realised beyond doubt that the achievements of agricultural improvement on a large scale was not practicable unless something was done to ameliorate the economic condition of the ryot, credit facilities like *thakkavi* loans were made available. But this amount was utilised by the ryot only to partly liquidate his previous debts and not for agricultural improvement. The ryot was not to be entirely blamed for this because the price of food grains and other agricultural commodities was too low to be anything appreciable. In order to obtain better returns for the ryots' produce this department organised Marketing Committees which have turned out creditable work with regard to commercial crops. Only when the prices of food grains and other agricultural commodities began to rise in 1943, thanks to the stoppage of the import of Burma rice due to the Second World War, the general public began to realise the food situation. The 'Press', which was silent hitherto on matters regarding agriculture, began to make hue and cry about the food situation and curiously enough forgot conveniently that the problem of food was closely related to agriculture. The procurement policy also marred the progress of agricultural extension. Neither the producer nor the consumer got the benefit out of it. The producer lost interest in furthering his production. These difficulties proved a blessing in disguise and opened the eyes of the Government. As a result food production got priority in the First Five Year Plan. Every attempt made to improve the living condition of the ryot is an attempt at the integration of research, education and propaganda in agriculture, as the individual and national economy rests only on agriculture and its improvement. It is imperative. therefore, that agriculture should have its right place in the national economy.

Integration - Future scope : By the general awakening and the rapid strides that have since been made in the extension side of agriculture, it cannot be claimed that the integration of the three aspects has been fully achieved. The several National Extension and Community Development Blocks have only helped in intensifying the agricultural propaganda and providing the ryot with all the requisits necessities. The sudden expansion in the propaganda side required a large number of qualified personnel and so the education side had to enlarge to meet the demand for large number of hands. But this has resulted in the deterioration of quality. The need for selection of the right type of young men and educate them well to efficiency in the field of agriculture requires no special emphasis. Agricultural education must comprise of all the subjects in which the common ryot is interested or is expected to take interest in the interest of the nation. This will in itself present several problems from the selection of suitable candidates to undergo the course, bearing in mind always the welfare of the entire nation, to the selection of teachers to impart the course. The agricultural student must be introduced to several branches of agricultural research and the extension features. Now-a-days the student takes up agriculture course after trying in vain to enter either medical or engineering college. The selection of particular course is not according to the natural aptitude of the candidate but by the incentive offered by the future prospects of pay. It is a plain fact that agriculture has been placed at the lowest rungs of the ladder in this respect, and naturally enough it is not possible to impart the energy, interest and enthusiasm in the agricultural graduate to the extent required. It is essential that only the best candidates are selected for the agricultural course. The improvement in agriculture requires to be always continuous. The results of the labours of the agriculturist end with the harvest of the crop. The crop is not always there as a building to gaze and admire. The memory is short in the public sector and only the hard and continuous effort of the extension worker can place agriculture on a better footing.

The agriculture extension worker has not been given the right place in the various developmental activities. He has been placed below the rank of those who are not appreciative of the needs of agriculture. It has been reported in the several evaluation reports and has also been felt by several outstanding persons that the development in the Blocks manned by the agricultural graduates are far superior to those operated by others. But, yet, Government is still hesitating to implement the recommendations regarding posting of agricultural graduates as Block Development Officers.

On the research aspect also things are not as bright as they should be. The availability of finance is one of the limiting factors to progress. Further, sufficient encouragement to research workers in the upkeep of their enthusiasm in the form of higher training or provision of equal opportunities to all to qualify themselves for higher degree - as degree are at present the only measuring roads for the competence or otherwise of a person - will go a long way in the furtherence of research. The agriculture course is only the preparation of a candidate for a general understanding of the subject and the progress in research or extension depends on the merit of the person and specialisation.

The extension worker at present has to face new problems during his work. The rise in the price of food grains has brought in its wake the touble, in the pacifying of which the agriculture extension worker has no hand. Previously the propagandists had to approach only the cultivating land owner. Neither the absentee land owner nor the tenant had interest in the land. The agricultural labour had to bother about neither. Now, for the agricultural extension to be successful, the local conditions are to be taken into consideration. The labour also requires to be educated. For example, in the introduction of thin seed rate the cultivator actually got into trouble as no labour was available to pull out his seedlings. The seedlings were sturdy, with better root-development than in the thick sown nursery and so would not yield easily to the usual mode of pulling. The seedlings broke at the node badly and the labourers got disgusted with it and migrated to another holding, where they in demand. Similarly for all agricultural operations, as we have to be dependent upon the labour, the education of not only the cultivator but also the worker is essential. This can be accomplished quickly and successfully only if all the cultivators in a village co-operate. The agricultural extension worker must now prob into the field of organising co-operative cultivatlon. Co-operation should also be simple and devoid of all procedural complications. This field of improvement also should be brought under the purview of agricultural extension. This will help the extension worker to be in close contact with the cultivators in every sphere of activity from cultivation to processing and marketing.

For the integration to be effective there should be exchange of knowledge between the research worker and the cultivator, so that, based on the experience gained by the cultivators, the researcher can reorient his studies and cater better to the needs of the cultivator.

This is being done at present in the conduct of Departmental Officers' Conferences and celebration of Farmers' Days. For the exchange of knowledge to be more effective the services of extension workers and agriculturists in the lower ranks must be properly utilised, to be in tune with the modern democratic outlook. The cultivators themselves have risen up to the occasion by organising Farmers' Forum in the different parts of the country and they rightly demand improvement from the agricultural research workers. Even then, the picture is not so rosy as it has been painted. The public are still unaware of the achievements of the Agricultural Department, eventhough they may be enjoying the fruits of the labours of this Department. This is partly due to prejudice and partly ignorance of matters pertaining to agriculture. Even the 'Press' has not given the right place to agriculture, paradoxically in a country, where most of its population in engaged in agriculture. Therefore, the extension staff has a tough task to carry out in driving out the prejudice and ignorance from the public. To enable the agricultural workers to attain this the government may, with advantage, reshuffle its administrative machinery and place agriculturists at the helm of affairs. Then only progress can be rapid to solve the food problem in this country once for all. In order that integration of research, education and propaganda can be achieved effectively, agriculture should be given its due importance. The younger generation should be introduced to the technique of agriculture even from the commencement of education, namely in elementary schools.

Finally, for the development of agriculture, the finer aspects of life are not to be forgotten. The womenfolk, in whose hands only the produce of agriculture gets the final verdict, should be taken into confidence. The processing and preservation of food-stuffs should form an integral part of the Agricultural Department.

Conclusion : In short, the success in integration of all aspects of agricultural improvement cannot be claimed to have been achieved unless the administration in the entire country from top to bottom scintillates knowledge regarding agriculture.

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