

Integration of Agricultural Research, Education and Extension

(Some aspects of Agricultural Education)

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In any programme of national development, there is need for an integrated effort through research, education and extension, to attain successful results and gain the designed objectives. This is particularly so in Agriculture, which is a human activity of a large mass of the population of the country. In the sphere of agricultural development, agricultural education plays a prominent role in that ultimately it is the means of transmitting ideas of technological progress to the large number of farmers, wherein it is necessary to train and prepare the proper personnel for the achievement of the aims and objectives.

Agriculture is represented both as an art and a science; as an art it is a composite of manipulative skills in ploughing, preparation of the field or controlling plant growth activities. As a science, it has an organised body of knowledge as to causes and effects, laws, principles for directing agricultural skills. This division of agriculture as an art and a science has practical importance in deciding the relative emphasis to be placed in these aspects in agricultural education. Agriculture is also a means of earning a living or it may be merely a way of life. In the former concept, the ryot is interested in bettering his standard of living, he looks at it as a profession as any other. In the latter outlook, the ryot has been built into an environment, he lives in the midst of vocation by his own choice or otherwise. Here the incentive for betterment may not be present, the outlook is circumscribed within certain elementary satisfactions. Indeed, it may go to that extent of being a family affair than a vocation. This fact has again has considerable significance on agricultural education.

Categories of Agricultural Education: Agricultural education may have to serve several purposes. The objective is important as the standards and methods of education have to be planned or modified to suit the requirements of the individual. Agriculture may be taught as:

- (i) a general agriculture school subject. Here the subject belongs to the realm of general education, learnings desirable for all persons.
- (ii) prevocation agriculture in schools. This may not have a vocational aim. It may be given to students before they take a vocational course. The prevocational study may form a background for a later study of the vocation.
- (iii) Vocational agriculture is the preparation of the student or trainee for a vocation or occupation in agriculture. The objective here is to train present or prospective farmers in farming methods or technique.
- (iv) College Agriculture intended to prepare a student for a vocation or for the agricultural profession. In the latter category may be included the graduates who go out for a professional employment.

Agricultural Educationists in Madras have always interested themselves in evolving varying types of training to suit the requirements of all concerned in the above categories. From the time the foundations of agricultural education were laid as early as 1876, until to date, Madras has sponsored agricultural education with a view to train the youth to become well trained agriculturists to run their own farms successfully and efficiently. Indeed the early sponsors of the Agricultural College at Saidapet have said that the idea of the institution was to give the needed training in modern methods of farming to the landed class to improve the agriculture of their farms and the country. To this day, this wholesome ideal has remained only as a wish but never fully consummated.

Madras State is not an exception in this matter; every advanced country has covered the ground with no more success than what have achieved here. Friends from the United States and elsewhere say that after their education, many trainees take up service of some form or other and the number actually returning to the land is but a small percentage of the total. It is not the place here to go into the why and wherefore of this fact, these have been debated in the past.

But certain issues arise from this position in designing the courses of studies to be run by the institution. For instance, type of agricultural education imparted in any institution must be related to the objectives to be attained by the trainees as a result of such education as was reiterated earlier. When an institution designs a course, it has certain definite goals as to the level of basic knowledge or skill expected of the trainees. Though this basic dictum is true in planning a course for a vocation, the objective may be different

and entirely modified when the course of study is planned for degree students in a College of Agriculture; as indeed the scope of such college education has no boundaries as may have been defined in the syllabus and circumscribed to what is contained in the prescribed text books. This must be, when it is remembered that graduate going out with a degree qualifies to be an all-rounder. He must prove to be a successful private farmer if he chooses to cultivate his own lands. He should fit in as extension worker to explain to the millions of farmers in our country the knowledge on better farming methods. After a little training he may enter the teaching profession as a College teacher to teach prospective students on improved farming methods or he may take a place as Research worker to solve a tricky agronomic problem. There is nothing preventing him from becoming a successful salesman for selling many things required by the farmer, be it a tractor, a manure mixture or insecticide. He may fit in if he so chooses to become the manager of an extensive tea, coffee or rubber plantation. It is thus seen that a College graduate must fit in to suit all these of life's adventures in the field of farming.

Changing times: This has relevance to the modern changed outlook on University training and on standardising techniques and evaluation of education, which have brought out many new ideas and concepts on a variety of problems connected with the philosophy and policy of agricultural education. These thoughts and ideas have been directed to the revision of the existing curriculum of studies and the design of uniform syllabus and teaching standards, the relative emphasis on the various contributory sciences, extension training and examination standards. The analysis of occupations of the agricultural graduates, the specific objectives of agricultural education and their relative importance, the requirements of agricultural industries in the state, an inquiry into the causes of failure in agricultural vocation—all these would help to reorientate the standards of studies of students and training levels imparted in the sphere of agricultural education.

A cursory examination of the occupations of former graduates from this institution would at once show that a great part of the passed personnel seek employment in Government departments and largely in the extension service. Even with developments in the other fields opening up new avenues of employment, still, Government would continue to be the largest employer for some time to come. It is a matter for serious thought whether a uniform standard should be adopted or each institution allowed to go forward and progress in their traditional way according to its own genius.

Over a long period of time in this institute, teaching courses have been planned and executed which have been found to satisfy the needs and aspirations of those who have fitted themselves in a variety of agricultural vocations enumerated earlier. During this long period, the course of study has not remained stagnant, many improvements and modifications have been effected from time to time and new subjects added. The basic approach, however has remained unchanged and stood the test of time.

Specialisation : This has relevance to specialisation in some branch of the science and attention is being bestowed among thoughtful educationists on the usefulness to provide facilities for such specialisation. Such facilities exist in main institutions and the course of study is designed accordingly. It is however pertinent to recall the earlier reference to the future employment opportunities. It is a matter for serious thought whether specialisation would not handicap them in their future employment.

Extension training : According to modern ideas, an Agricultural College should have provision not only for instruction and practical training but also an extension wing. In the present set up of the department, the extension wing is isolated from the instructional and research wings, though co-ordination is maintained between all the wings at administrative level. In view of the fact that a large number of graduates are employed as extension workers in the department itself, it is obvious that such training is essential to make them successful extension workers. There is thus an imperative need to organise an extension training wing in the scheme of education in the Agricultural College.

Vocational education : Vocational education, except as a means of seeking employment, has not made much headway among the farming class. It is doubtful whether it would become popular at all. Agricultural education at all levels have been viewed purely as a means of securing a job. Whether it would attract the real farmer who needs the training for his vocation, time alone would show.

Retrospect and prospect : Over the past ninety years, agricultural education has undergone many changes. Many far reaching programmes are envisaged in the present and future Five year Plans. The future set up of agricultural education must be to make these plans a success. Changes, both practical and ideological are sure to come about. Be that as it may, the Agricultural College at Coimbatore would continue to play a useful part in all these endeavours, as befitting the pioneer institution in the country in Agricultural Education.