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DEVELOPING A REALISTIC AGRICULTURAL ECONOMICS EDUCATION FOR BANGLADESH AGRICULTURE

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ABSTRACT

In line with the naturally integrated broad-based mixed farming system of Bangladesh, this paper suggests an agricultural economics education as an integral component of a common agricultural education at the undergraduate level with specialization only at the Masters and Ph.D. levels. For the fundamental necessity of educating millions of farmers, the paper empasizes the need for common and broad education for their trainers in social sciences and humanities over the strong foundation of agricultural sciences (physical and biological).. This is considered indispensible in developing a common identity among students, compete successfully for all agricultural jobs and implement various action programmes without the necessity of inter-faculty or inter-departmental rivalries. Some specific benefits of common curricula are also indicated. After discussing the structural composition of the Agricultural University, objectives of agricultural economics education and nature of student population, the paper suggests some addition of relevant educational content and methods for possible improvement. Finally, it suggests to linking resident teaching with research and extension through establishing testing socioeconomic and technological laboratories both on-campus and in the adjoining Upazillas under its operational control.

I. INTRODUCTION AND RATIONALE

To be most effective, agricultural economics education in a predominantly agricultura1 country like Bangladesh must be properly built into the system of broad-based agricultural education. Experience in many countries, both developed and developing, suggests that neither agricultural economics nor technical agricultural education should be isolated from the mainstream of general education and the practical problems of the society if the universities are serious to fulfill their commitment to work for the welfare of the people in general and the farming community in particular.

I would first analyze the characteristics of our mixed farming system, assess our student audience and define their educational goals with special reference to educating

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millions of farmers in improving their management abilities before suggesting the nature and directions of improvement in agricultural economics education.

II. MIXED FARMING SYSTEM IN BANGLADESH

Bangladesh agriculture follows a composite mixed farming system. It is naturally integrated both vertically and horizontally in a multiple cropping system by almost all of the 7 million independent family farms, mostly on subsistence basis. This kind of cropping system is distinctly different from the kind of specialization followed in U.S.A. and many advanced countries of the world. Whatever may be the division of responsibilities among Ministries, Government Departments and university Faculties, agriculture at the farmers level is an integrated system of farming in which crops, livestock, fish and farm forest constitute one economic whole. In the decades ahead, this is likely to remain unchanged with little or no specialization under prevailing socioeconomic conditions, fragmented and scattered holdings, and tenurial situations. For example, a representative farmer operating even a small farm (say 2 acres) has his land located in 4 to 5 scattered parcels. He traditionally grows paddy, jute, oilseeds, pulses, wheat, sugarcane, summer and winter fruits and vegetables, during different seasons on the basis of land capabilities, his past experience and resource situation. In addition to keeping a pair of bullock to till the land, he also maintains one or two cows/heifers, or goat and some poultry and ducks, rear fish in a small pond adjoining his barn where he also grows a few fruit trees. Crops and livestock are, thus, inextricably linked together—cultivation of one cannot be thought of without the help of the other. Besides providing draft power to our agriculture, livestock always offers meat, milk, wool, hide and skin, organic fertilizer and fuel, etc to support agriculture and other industries. After crop and fibres are used by people, their residues/by-products are consumed by livestock, poultry and duckery. Similarly, farm pond is the natural source of water for various usage—bathing, washing clothes, drinking, irrigation, cultivation of fish and ducks, etc. Thus a naturaly integrated agriculture is followed in Bangladesh in such a fashion that one function or enterprise reinforces the other so as to achieve the most efficient utilization of his limited physical, human and financial resources.

Though many experts take it for granted, the implications of this mixed farming system upon the demand for planning realistic agricultural curricula, their teaching methods as well as organizing various research, advisory services and action programmes have historically been either by-passed or neglected in Bangladesh on account of initial faulty planning and vested interests.

III. FUNDEMENTAL PROBLEM OF EDUCATING FARMERS

The fundamental problem of agricultural development in Bangladesh is one of educating millions of farmers in improved methods of farm production management, marketing management and financial management abilities and help them produce more and do so most efficiently. High yields obtained by a few localised farmers for selected crops in the villages and by some scientists under experimental conditions must have to be diffused effectively for all enterprises at every nook and corner of the country. This is dependent upon at least *four inseparable and interdependent key programmes,* as mentioned by Islam (1979) :

1. most productive agricultural education and research (knowledge with high pay-off) ;

2. effective extension system for diffusion of this knowledge among farmers through properly trained teachers, research workers and extension agents ;

3. reliable, adequate and timely supply of productive inputs and services including credit at reasonable costs ; and

4. attractive output prices and rewarding environment ensuring producer incentives to invest in improved technologies for optimum resource allocation, production and income, both in the short and long-run.

Thus we are concerned here with developmental education. A successful agricultural development must, therefore, depend upon laying a strong foundation of agricultural education of the thousands of trainers of farmers (i.e., the proper training of trainers). The farmer is the central catalyst in the process of agricultural development, perhaps more than in any other type of economic activity. It is he who shall bring development. The research scientists, teachers, extension agents and various other public and private functioneries can only act as supportive to improving his farm management efficiency in optimum utilization of all resources under his command. Therefore, direct farmer's training and education (i.e., extension education) and for that matter the training of the trainers (i.e., training of agricultural graduates, etc.) as well as farm research and demonstration must neither be conducted in isolation from each other nor can each be divorced from their inseparable natural connection of multiple cropping system if each has to expect any practical relevance to the farming community. I would consider this as a top-most priority in planning agricultural education including agricultural economics educaton, because any weakness at this level is likely to multiply and perpetuate weaknesses in both research and extension programme and will ultimately undermine the efficiency of farmers and *hence* economic development of the country.

IV. STRUCTURING AGRICULTURAL UNIVERSITY

Isolation of agricultural education in Bangladesh from the mainstream of general education and from the problems of society in particular has led to great difficulties. As a member of the Pakistan's Food and Agriculture Commission, Professor Charles M. Hardin (1959) made a brief but far-reaching recommendation for structuring the Agricultural University. These recommendations were mostly rejected by its initial planners without appreciating their fullest implications. As they are in close conformity with my foregoing observations, I like to cite them for critical evaluation.

Without elaboration, Dr. Hardin suggested that a close relation should be established between the soil survey department of the government...and soil science department of the university...Animal Husbandry will be a department and will coordinate with soils, agronomy, agricultural engineering, agricultural economics and the rest. He also suggeted that the university should be organised with a Dean of students and with Directors of teaching, of research, and of agricultural extension. Under these men, the organization should be by departments with heads or chairmen who supervise the work in teaching, research, and extension in their subject matter fields.... Agricultural science must smell of the fields and not of the lamp. Courses in soils, field crops, agricultural economics, and animal husbandry should include much field work, not only on the college farm, but on cultivators' farms. For this reason it would be well for the special district programme to be located near the University.

Built-in integration of natural cropping system could neither attract serious attention of the early planners in structuring the university faculties and departments nor could they establish adequate linkage between teaching, research and extension. This was perhaps influenced by their over-riding consideration for the training of the students without an adequate and positive programme to make them powerful instruments to serve the farmers. Whatever may be the actual reason, the early planners disregarded the universal practice and experience of both the developing and developed countries before establishing a more than required number of faculties and departments and introducing specialization much earlier than necessary. Even a great majority of the developed countries operating highly specialized agriculture do not follow such narrow specialization. From effective operational viewpoints, neither our farming system nor our economy can justifiably support six faculties in a single agricultural university, namely, (i) veterinary, (ii) agriculture, (iii) animal husbandry, (iv) fishery, (v) agricultural engineering, and (vi) agricultural economics and rural sociology.

While a comprehensive multiple-enterprise agriculture is followed at the farm level, the university has followed an inadequate, piecemeal and disjointed agricultural education meant to serve peasant farmers. Such a disintegrated training under superfluous number

of faculties has largely demonstrated as less effective and more costly for a poor country like Bangladesh. Moreover, instead of developing an extraordinary dedication needed to serve the teeming millions of farmers, these faculties have also generated too much inter-faculty and inter-departmental rivalries among teachers, students, officers, and experts etc. This is how they had dissipated their energies and talents in complaining against each other rather than pooling all their mite to combat national hunger, poverty, and massive rural-urban unemployment.

A disjointed and fragmented agricultural education so far followed in Bangladesh seems to have invited inadequate back-ground preparations to meet the challenge of comprehensive efforts for coordinated development and have sown seeds of distructive professional rivalries and wasteful efforts through multiplicity of organizations and action programmes. The crucial role of trained manpower is thus largely curtailed in initiating and implementing various development programmes through the central catalyst—the farmer. If the university has any serious commitment to the welfare of the people, I feel that all its efforts in teaching, research and extension must be centred around the farmer first. The prime objective of the farmers must not be sacrificed to the immediate job objective of the students and teachers. Rather, the latter must be built into the former in such a balanced fashion that one reinforces the other as to enjoy the attendant prosperity by both the participating groups.

Drawing a parallel with our country's medical educaton, only the Veterinary Faculty can possibly justify its separate existence with the rest being unified preferably under an integrated Faculty of Agriculture in consistent with its natural and broader definition reflecting realities of Bangladesh agriculture. This consolidated faculty may offer 3 years common curricula in required basic sciences, agricultural sciences, social sciences and humanities with the final year devoted exclusively to reviewing of various national development programmes, research methodology, a miniature thesis and advance courses on a discipline in which the student may prefer to do professional work or specialize in his Masters programme. After rigorous revision and updating of old and new agricultural curricula to reflect modern technologies and innovations, a special committee may be entrusted to recommend a pragmatic syllabi, effective teaching methods and feasible organizational mechanism for necessary linkages between education, research and extension.

Development of realistic curricula and teaching methods must not be student or teacher-oriented *alone* but should solely or wholly be farmer-oriented. This does not mean that the job interests of the former should be overlooked. The only suttle difference is that they should always maintain the enlightened interests of the farmers in the fore-front and their mutual growth and prosperity are closely interlinked under ideal conditions. Thus, for example, service oriented role of young agricultural economists to the farmers and policy-makers presupposes an urgent necessity to review and identify the major

objectives of agricultural economics education by the university administration, teachers and students before developing a more productive educational programme. The prescription which I have advocated in this paper invites a questin as to whether there is a strong enough need for specialization in agricultural economics as to warrant a separate Faculty of Agricultural Economics and Rural Sociology when we delineate its objectives. I have occasionally heard Wharton, Jr. commenting on "overdeveloped degrees for underdeveloped countries". This is also reflected in the CEANAR Report written for specialized American agriculture : "that the present extent of *professional overspecialization* at the undergraduate level comes at the great sacrifice of a broad, general education and basic science exposure" (Hess 1969).

V. OBJECTIVES OF AGRICULTURAL ECONOMICS EDUCATION

The broad-objectives of agricultural economics, according to Boger (1963) are :

1. To understand and describe the environment in which farm products are produced, distributed and consumed, including agriculture's social and political institutions, its physical and human resources and the relevant value preferences of its people ;

2. To refine and extend the principles of economics as they apply in the production, distribution, and consumption of farm produts ;

3. To analyze opportunities for fuller attainment of public and private objectives through changes in the use of scarce resources available for production, distribution, and consumption of farm products.

The above objectives explicitly requires that the students must have a clear understanding of different segments or functions of agriculture and be able to apply economic principles to the solutions of practical agricultural problems. They also should have good methodology training. It means that the students should be familiar with farm management, marketing, farm finance, cooperation, land economics, agricultural prices, agricultural policy, international trade, etc. Because of existence of diverse interests and purposes, I do not suggest a merger of five faculties and upset the structural status quo. Had it been done in 1961, it would have been much easier and cheaper and most useful to the nation. I feel strongly that our farmers can be better served by a common agricultural graduate if five faculties (agriculture, animal husbandry, fishery, agricultural engineering, and agricultural economics and rural sociology) agree to pool their talents in offering a common programme for the cause of the farmers. Under present circumstances it is very difficult but not at all impossible if all of us, especially the students, teachers and

administrators objectively evaluate the positive benefits of a common undergraduate curricula as follows .

1. To reduce or eliminate the inter-faculty rivalries among students and teachers and develop a common bond or fellowship essential for ideal educational environment ;

2. To help them acquire the best possible education, and confidence through mobilization of best talents from all faculties ;

3. To be eligible to compete for jobs in any Ministry or Directorate or international agency on the basis of merit, qualification and personal aptitude of the students and teachers of various faculties without being resorted to any implicit or explicit coercion or unfair treatments from within and outside the university ;

4. To reduce or eliminate chances of various destructive competitions or unfair treatments from the country's clerocracy, bureaucracy or non-agricultural professions ;

5. To help government consolidate and reorganize multiplicity of teaching, research, extension and inputs organizations for better servicing of their clientele groups ;

6. To reduce or eliminate chances of being blamed for the failure, if any, of any development programme in which right professionals had no say whatsoever ;

7. To increase direct commitment to the interests of the farmer and job satisfaction for creative works.

VI. NATURE OF STUDENTS

Because of inherent and widespread poverty in Bangladesh agriculture and existing sociocultural and economic phenomena, most of the students at this university come from upper income groups from both rural and urban areas having little or no farm background. Ill-equipped and poorly staffed rural colleges can hardly impart the type and quality of HSC preparations considered useful for the successful entry into such a university and the faculty. The problem of the rural farm youths is accentuated by costly tutorials and higher connections and acquaintances enjoyed by others because of their parents' economic, official and social positions. Unlike other lucky students, the farm youths have to compete under much adverse situations. The condition is no different for rural teachers, either. By background, training and aptitude, most of them are closer to urban or semi-urban

aptitudes than rural or agricultural. This is the educational environment under which the future "soldiers" of agricultural modernization have to be trained and inspired to make real commitments to the genuine cause of the rural communities. The situation can only improve if the positive interests of the farm youths are given sympathetic consideration through higher weights for their practical farm experience, reservation of seats to the extent of 50% or more and provision of specific grant of stipends and/or interest free loans. This kind of special investment is likely to attract more productive farm talents in this university ment for all-round farmer's development. Attempts of various agricultural development programmes without simultaneous development of farm communities have largely demonstrated a futility and therefore begs of immediate corrective measures.

VII. RELEVANCE OF EDUCATIONAL CONTENT AND TEACHING METHODS

Needed curricular reforms and modernization can best be made jointly by teachers and experienced graduates working in various action and research projects in different parts of the country. Experience of teachers and undergraduates in rural pilot projects as well as some of their personal experience abroad in pursuing advanced agricultural education would be valuable resource persons in the process of improvement of both educational content and method. As prescribed earlier, agricultural economics education should preferably be imparted as an integral part of agricultural education to cater to the broad-based needs of non-specialized and yet integrated farming system with specialization only at the Masters and Ph. D. levels. In consistent with objectives mentioned earlier the training of the undergraduate should include fundamental work in the physical and biological sciences, social sciences and humanities offered preferably under a semester system. He should master over the basic arts and sciences of practical agriculture and must understand the economic system : how it operates and why it operates as it does. Professor Leamer (1965) identified *four approaches in economics' education* which may be pertinent for our students with needed modifications : (i) teaching of economic principles, (ii) problems approach i.e., built to understand and solve problems and that they can best be understood in the context of a problem, (iii) institutional approach which describes and analyzes functions they perform, e.g., financing, and (iv) political economy approach, emphasizing government and its role in policy formulation. Participation of teachers and students around solutions of selected practical problems of the society through a number of small but meaningful pilot action and research projects may provide valuable work experience, skills, dignity of labour and more particularly the confidence on their own abilities and usefulness to the community. Successful action programmes may also generate mutual "rapport" between the teachers and students on the one hand and the rural community on the other.

VIII. LINKAGES OF TEACHING WITH RESEARCH AND EXTENSION

With a view to enriching the educational contents and methods, as well as developing confidence in the ability and usefulness of the teachers and students, the university must establish creative linkage with its campus farm as well as adjoining Upazilla as testing laboratories. Campus experimental and production farm (livestock, poultry, horticulture, fishery, etc.) would constitute the foundation and nerve centre of the faculty in the same way as the hospital of a Medical College. It would help students learn first-hand work experience in technological, economic and organizational aspects. Promising varieties of crops, livestock, fish, etc. developed in the university or elsewhere need to be demonstrated and given ttials both on students' plots/projects and on farmers' plots in the adjoining Upazilla used as testing socioeconomic and technologial laboratory. The students would test and practise what is taught in the classroom under close supervision and guidance of their teachers. Substantial teaching materials would be generated through a series of action and research projects implemented jointly by the participation of teachers, students and rural people. This would add realism i the curricula and build initial rapport, with rural people for expanded action programmen in future.

On the pattern of US Land Grant System partly followed by many Indian agricultural universities, our university may take up an entire District under its operational control for agricultual development. And for maintaining a two-way flow of information, it may post its own extension agents and research workers in convenient location with a view to developing an effective system of linkage between teaching, research and extension. In addition to piece-meal enterprise studies made by agricultural economics students and teachers, this experimental laboratory area would practically help them learn how to make cost-returns studies of the "whole farm", organize cooperatives, clearly understand the complexities of farm management which is considered as a necessary foundation for all economic judgements affecting both individual farm operations and the entire farming sector (Lewis 1967).

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