

Agricultural Education in Distant Mode in Bangladesh Open University- A  
New Approach to Transfer of Technology.  
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Abstract

*Bangladesh Open University (BOU) was established in the year 1992 with six faculties to offer formal and no-formal courses in distant mode. The School of Agriculture and Rural Development is actively engaged in educating people in different disciplines of agriculture to the urban and rural people, including village farmers and eager undergraduate students. Bangladesh economy is heavily dependent on agriculture. Agricultural education therefore, bears special importance to update the production technology of agricultural commodities for their ultimate transfer to the end users, the farmers, throughout the country. The BOU follows curriculum based courses which are offered through different tutorial centres located in different geographical districts. Strict regulations are followed during enrolment, tutoring and evaluation for quality assurance of the learners. Print and electronic media are used to support students. Books are printed in modular formats. It has been observed that proper guidance, specially through practice teaching is difficult to provide to the learners, though theoretical aspects are easily dispersible. Various methods are in trial to identify the better methods of practical demonstration with interactive approach. The present paper discusses in detail the curricula, techniques of delivery, tutorial experience, students attitude and performance and problems encountered with probable suggestions regarding practicals, while offering courses on agriculture in distant mode where practical demonstration is vital for successful teaching.*

**Introduction:**

Bangladesh Open university (BOU) is the only institution in Bangladesh that offers courses to learners following the principles and practices of open and distance learning (ODL). The University was established in the year 1992 with six faculties to offer formal and non-formal courses in distant mode.

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The faculties are:

1. Open School
2. School of Education
3. School of Business
4. School Social Science, Humanities and Language
5. School of Science and Technology
6. School of Agriculture and Rural Development.

In total 18 programmes are offered at present from the different schools. The present number of students enrolled is about 300,000. School of Agriculture and Rural Development of the BOU is actively engaged in educating people of the rural areas of the country with the help of modern technology of agriculture to boost up production of different agricultural commodities including field crops, poultry, dairy and fish. The economy of Bangladesh with an available cultivable area of 14.8 million ha. and a population of 130 million largely depends on agriculture. Agriculture contributes more than 50% of the output of the economy and employs approximately two thirds of the labour force of the country (Islam1997). Rice production has been nearly double from 10 to 19 million tons over a period of 15 years. Forestry and live stock have also shown a fairly impressive trend of growth in the country (Karim 1997). The primary exphasis of development efforts in agriculture since independence has been to replace the age old methods of agriculture with modern technology capable of sustainable growth. Farmers in the country, mostly uneducated, are still following the traditional practices of agriculture. Government and non-government organisations (NGO<sup>s</sup>) in the country are working tirelessly to educate the farmers with modern techniques of production. Bangladesh Agrgicultural University, Mymensingh along with several other colleges and universities of the country has been producing agriculture graduates who join the Department of Agriculture Extension to work as extension officers in order to transfer the updated technology to farmers. There are several research institutions in the country to do search in finding out solutions of local problems of farm production. But to reach the huge mass associated with so diversified fields of agriculture is not an easy task.

Importance of ODL has recently been focused as a useful tool for transfer of agricultural technology from the researchers and academics to the farmers who are the end users. Mass education through formal and non-formal programmes in ODL is well recognized today throughout the world. But it is difficult to teach science subjects specially the practical oriented courses of agriculture, in distance mode. Conventional universities have the advantage to offer laboratory or field facilities for practical demonstration. But it is

always difficult to demonstrate distance learners any sort of actual operations to practise and learn. Only reading of printed material is not sufficient for attainment of knowledge of practical oriented subjects because the quality of a programme depends on the process and outcome. The School of Agriculture and Rural Development of the BOU has taken up an ambitious project to offer several programmes and courses of agriculture mainly for transferring the updated technologies to the rural people. The present paper discusses the programmes in detail, mode of delivery, student support and evaluation system. In addition an attempt has been made to identify the problems and weaknesses of the offerings and suggestions for improvement there of.

### **Formal Programmes:**

At present the School of Agriculture and Rural Development is offering four programmes namely the Bachelor of Agricultural Education (B.Ag.Ed), the Diploma in Youth in Development Work (DYDW), Certificate in Livestock and Poultry (CLP) and Certificate in Pisciculture and Fish Processing (CPFP). A short description of each of the above mentioned programmes is given below:

***B.Ag.Ed:*** This is a graduate programme designed to provide proper education in agriculture to the teachers of schools and madrasahs (religious school) who are engaged in teaching agriculture to the secondary level students. Agronomy, horticulture, nursery management, fishery, poultry, dairy etc. along with language proficiency and some pedagogical courses are the core courses of the programme. Diploma in Agriculture or higher secondary level of education is the required qualification for enrolment in the programme. There are about 20,000 schools and madrasahs in the country where agriculture is taught as an important subject along with other compulsory subjects. But there is a dearth of qualified teachers in agriculture. It was rather impossible for any other university to take the task to train such a huge number teachers of agriculture without following the proven method of ODL. The BOU was given the responsibility by the government to offer the B.Ag.Ed. programme in the year 1996 and the first batch of students graduated in the year 1999. It is a six semester programme with six months for each semester. The programme is offered through 14 Tutorial centres (TC<sup>s</sup>) covering the entire geographical area of the country. Modules are handed over to the learners and tutorial support is provided for each subject by experienced tutors (facilitators) from the localities where the TC<sup>s</sup> are situated. Theoretical classes are held in the traditional class rooms.

Practical classes are held in the field laboratories of the TC<sup>s</sup>. As the facilities of the Agricultural Training Institutions (ATI<sup>s</sup>) have been hired by the BOU for this programme, the process of practical demonstration has become easier. The BOU has a rich media centre where video and audio teaching aids are produced for broadcasting through national TV and radio channels. As such student support in print forms as well as through TV and radio are provided to the learners. Examinations both theoretical and practical are held after end of each semester. Objective and broad type questions are set and scripts are examined by external examiners. Practical demonstration and oral are the part of practical examination. Result of every examination is centrally published by the Controller of Examinations at the BOU after each semester.

***DYDW:*** This is an international programme funded by the Commonwealth Youth Programme (CYP) and quality of the students is monitored by the University of Huddersfield, the designated Pan Commonwealth Quality Assurance Agency. The programme is yet in pilot cycle phase with the second offering now in progress. 150 student have been enrolled during the pilot cycle in two tutorial centres. This is a graduate diploma programme. Modules written in English have been provided by the CYP. A strong force of youth workers is expected to get proper training in youth development to enrich human resource development after exposure to the courses of this programme. Student evaluation is done by end semester theoretical examinations, assignments and orals.

***Certificate in Livestock and Poultry (CLP):*** This is a certificate programme having duration of six months. Certified learners are expected to learn the basic techniques of rearing livestock and poultry so that they can start their own farms of dairy, beef or poultry to become self employed. Both theory and practicals are provided through printed modules and TV and radio broadcasts. At present 100 students are enrolled in this programme.

***Certificate in Pisciculture and Fish processing (CPFP) :*** Bangladesh is a land of rivers, ponds and lakes. Fish is a common item in the every day dietary menu of almost every body and it is thus the main source of protein. There was a day not long ago when fishes in abundance could be obtained from natural water pools, rivers and ponds. But those days have gone by now with the growth of population. Only recently government has taken steps to boost up fish production in the country by systematic rearing of fishes with modern methods and machinery. CPFP programme has been designed to impart knowledge of modern fish production techniques. The

programme is of six month duration and 100 students are enrolled in the programme every semester who go back to start their own fish farms after getting their certificate of training.

**Non-formal Programmes:** The BOU also offers non-formal programmes to transfer the technology of agriculture to rural farmers. These programmes are dispersed through national TV and radio station. The programmes are produced by the media centre of the BOU and the scripts are written by the faculty members and eminent guest scientists of the country. 16 non-formal programmes have been produced till to-day.

### **Constraints:**

***Delivery System:*** The BOU is offering the courses on agriculture and rural development strictly adhering to the flexibility and other customary agenda of the ODL. The country wide net work of the RRC<sup>s</sup> and TC<sup>s</sup> have made it easier to enroll a huge number of students in different programmes. Monitoring and evaluation are also done properly. But there are problems that can not be solved easily. Dropout of students is one of the main problems. About 30% dropout is noticed in the B.Ag.Ed programme, where as 60%, 20% and 15% dropouts have been noticed in the DYDW, CLP and CPFPP programmes respectively. Student attendance in the TC<sup>s</sup> is also not satisfactory. Distance of the TC<sup>s</sup> from the residences of learners, uneasy feeling of an unfriendly atmosphere in the tutorial sessions and above all, the far way attachment with the faculty at the BOU bring a feel of loneliness to the learners. These have been identified as the prime causes of irregular attendance in the tutorial sessions. Question has also been raised about the effectiveness of the practical sessions. Attendance in tutorial sessions can not be made compulsory to the learners in the ODL system. But missing practical sessions seriously hampers the learners' outcome in a practice-oriented programme like agriculture. It has also been observed that the students who did not attend the tutorial sessions regularly failed in great numbers in the practical part of examinations. It may be possible to learn the theoretical aspects of the lessons by reading the print modules or by watching TV and listening to radio lessons but it is a real difficult task to understand properly and then demonstrate the understanding without doing a job practically which is an important part of learning any science course. Inadequate collaborative learning process is another weakness of the present system of delivery of the BOU. Learners do not get enough opportunities to understand the concepts of complex parts of the modules through discussions and asking direct questions. Most of the learners are adults who

always want to ask questions to the details. Principle of andragogy suggests that the adult learners perceive themselves as self directing human beings and define themselves in terms of own personal achievement and experiences (Jamaluddin et.al 1997) These learners need a more collaborative learning process rather than just reading a structured module or having some limited hours of face-to-face instructions in TC<sup>s</sup>. The present facilities of the BOU do not permit the learners to get much time for collaborative learning process. Other modes of delivery except printed texts are not well developed yet. Access to TV and radio programmes is also to some extent restricted owing to short period of broadcasting by the government owned TV and radio stations. TV and radio broadcasts are only one way lecturing without discussion and interaction. As a result the hunger to know by asking questions and participation can not be fulfilled. A survey result (Kabir, 1995) further indicated other problems like an instable supply of electricity and frequent transmission interference in TV broadcasts by other stations from across the border of the country. Video conferencing facilities are yet to be installed in the BOU media net work. Computer based study is totally unavailable as e-mail, voice mail and conferencing for discussion have not yet been established. Students do not have the facilities to get references from on-line resources. Although printed course materials, the most powerful tool of distant learning, are available to the learners of the BOU as elsewhere in the world, yet teaching support from e-mail, voice-mail, internet browsing, etc. the revolutionary methods of distant education of the modern world are still out of reach of the BOU students. This is an unfortunate situation because the distant students every where want a learning process flexible but relevant to their work, updated, portable, affordable, and understandable. (Faruque, 1998). Modern electronic supports in addition to modules produced following proper instructional design can only satisfy the needs of the distant learners to understand their readings better with comfort and satisfaction.

### **Assessment :**

Proper assessment is a prerequisite to adjudge the learning outcome. In the BOU system, end semester examinations are held to evaluate the performance of individual learner. The entire system of examination is quite smooth except that it takes about 2 months to complete the examinations and another 2 months for evaluation and publishing the results. The reason for such delay is that vacant class rooms in the rented tutorial centers are not available to take the examinations during the week days. Unusual time is also taken to send the scripts to the examiners by registered mail and then

getting them back for tabulation and finally for the publication of results. Such unexpected delay some times bring frustrating feeling to the learners.

### **Student faculty interaction:**

It is true that students can be independent in their own learning but still there remains the question of what is to be learnt and therefore some directions and student counseling are always important. The students at distance are ignorant learners and they do not possess ideas in the beginning about the course and the overall system at the time of first enrolment (Mitchell, 1988). They need guidance in areas where they lack experience and expertise. They need to ask for help when they find it difficult to understand a complex content. Tutors do help them but not always enough to their needs. It is necessary to raise their sense of empowerment and self confidence so that the learners do not suddenly get confronted with more responsibilities for their own learning than expected by them. This situation creates anxiety and sometimes withdrawal (Johnson, 1996). The students of the BOU are also isolated as they have not much chance to meet their faculty members.

### **Future strategy and conclusion:**

With all the weaknesses cited above the challenge of the BOU to offer courses of agriculture should not be under estimated. There is no other option in the country but to provide agricultural education to such a huge number of secondary school teachers of the country and to so many members of the farming community without a crash programme to be processed though Open Distance Education.

The School of Agriculture and Rural Development has put forward some suggestions to the Academic Council of the BOU as its future strategy to improve the overall situation that includes imposition of compulsion on the students to attend the practical sessions. This can be done by allotting 10% of total marks for attendance. In addition, video tapes of practical demonstration will be supplied to the students on loan to practice the practical lessons on their own at their own place. More effective tutor training has been suggested to motivate the tutors to behave as a tutor not as a teacher for creation of friendlier environment in the tutorial sessions and to make the sessions learner-oriented by more interaction and collaboration. Peer-group arrangement has already been introduced in some TC<sup>s</sup> to do away with the feeling of loneliness and frustration among the learners.

The idea of transfer of technology through the ODL is a brilliant one. Training of 20000 agricultural teachers will be of great help to solve the day-to-day problems of the village farmers as they will get an agricultural expert handy. Innovative idea for improving the present system of delivery particularly in the process of practical demonstration with some modifications in the policy and system will no doubt improve the situation to achieve the goal of bringing out graduates of assured quality from the School of Agriculture and Rural Development of the BOU. These graduates with adequate knowledge will be able to transfer proper and updated technologies of modern agriculture to the farmers. The need for transfer of updated agricultural technology is at the top of the agricultural policy of the country. The BOU has identified the difficulties and it is expected that within a short span of time a strong force will surface from within the BOU system to overcome the difficulties and it will take the lead to impart proper training to the stake holders with better equipment, regulations and motivations.

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