Bangladesh Journal of Extension Education *ISSN 1011-3916*
Volume 24, No. 1&2, 2012:89-97 *Research Article*

Agricultural Extension Approach for Bangladesh Based on Field Experiences

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Abstract

Department of Agricultural Extension (DAE) has been providing agricultural extension service in the country since division of the Bengal after the British rule. The earlier approach was a face to face dialogue between the extension worker and the farmers. DAE followed a *top-down* approach of technology delivery that seldom satisfied farmer's demand and thus failed to create desired impact. DAE started reforming the extension approaches and methodologies during 1970-1980 through the introduction of a system called *Training and Visit* (T&V). The system improved the service delivery to some extent yet failed to fulfil farmer's needs because of the top-down approach. A second reform started through introduction of the *group approach* in the mid-nineties and a policy document called New Agricultural Extension Policy (NAEP) was formulated in 1996. The system included a *bottom up planning* and working with *gender balanced group* and *public-private sectors partnership*. Because of some inherent weaknesses in the managerial level NAEP soon became non-functional and died after discontinuation of the donor-funding. Recent changes being tried to ensure farmer participation right from the planning process through formation of Common Interest Group (CIG). This failed to serve a heterogeneous group of farmers and thus narrowed down the scope for reaching larger groups. Therefore, new approaches have been tried in delivering extension services by IRRI since early eighties and by the author during last decade. These have been elaborated in this document. The approach tried to transform the farming system from the *subsistence level* to an *enterprise level*. The approach proved successful due mainly to efficient resolution of conflicts among the various interest groups in the society, ensured participation of all categories of farmers of the society in all stages of planning and execution of farming activities and thus farmers own all the farming activities.

Key words: *Agricultural extension, approach, NAEP*

Background

The country has a long history of public sector agricultural extension services, which dates back to 1947. The Department of Agricultural Extension (DAE) is the largest public sector organization with adequate staff at the grass root level delivering extension services to farmers throughout the country. Nevertheless, it remains relatively a small player of information dissemination. Farmers' demands for information exchange are supplemented by meeting friends, relatives, neighbors and observation made during tours outside their region.

DAE follows a *top-down* approach of technology delivery that seldom satisfies farmer's demand and thus fails to create desired impact. DAE started process of improving the system of technology delivery with the funding of various donors since early seventies and several approaches have been tried. Nevertheless, a final solution of a problem of this sort is yet to be

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reached. Bangladesh Agricultural Extension Society (BAES) has taken a step to bring in ideas of improved agricultural technology delivery systems in the country contributed by agricultural extension specialists, educationalist, researchers and development workers. This effort is very timely and hopes to contribute significantly in refining the second policy document under preparation by the government after NAEP.

Objectives

The authors have long record of working to improve the agricultural technology delivery systems in the country and like to share their knowledge of working in the field so that more sustainable systems of agricultural extension could be derived. Thus, this paper intends to:

1. review past efforts made in improving agricultural extension systems in the country;
2. analyze the current systems; and
3. suggest new approach based on their efficiency tested in the field.

Early Approaches

DAE started reforming the extension approaches and methodologies since four decades back (1970-1980) through the introduction of a system called *Training and Visit* (T&V). This was a system of alternated training and field visits in which field level workers (BS) of DAE made direct face-to-face contact with 10% of about 800 farm families (contact farmers) of his block during field visits. Each fortnight a BS was given 2-3 impact points (recommendations) prepared on the basis of the field problems observed and reported by the BS during the previous fortnight. Although this program brought some good results yet it suffered a lot from the BS not making frequent field visits due to poor logistic support and lack of farmer participation. Moreover, farmers found only 30% of the impact points useful and the rest were more of a traditional type and could not fulfil farmer's needs.

A second reform started after a few years of T&V when the system of *meeting individual farmer* was changed to *meeting group farmers* thereby introducing a **group approach** in the mid-nineties. Concomitantly the approach was turned to bottom-up planning, farmer participation and decentralisation. With this sort of changes in the approach, a new policy document bearing the title **New Agricultural Extension Policy (NAEP)** was formulated in 1996. Essential features of NAEP were a) extension support to all categories of farmers, b) decentralised planning, c) demand-led extension services, e) strengthening extension-research linkage, and f) coordination at each echelon of administration (UADC, DDCC, ATC and NTC). Strategies for implementing NAEP was formulate in 1997 where various coordination committees were formed at national level down to local levels. These coordination committees are:

1. NATC [National Agricultural Technical Co-ordination Committee] at the national level
2. ATC [Agricultural Technical Committee] at the regional level
3. DEPC [District Extension Planning Committee] at the district level

4. UAECC [Upazila Agricultural Extension Co-ordination Committee] at the upazila level
5. DAE/NGO Liaison Committee for homestead production.

With the implementation of NAEP in 1997 the conditions of service delivery of the DAE improved to some extent, particularly in the *bottom up planning*, working with *gender balanced groups* and *NGOs*, and promotion of eco friendly technology such as integrated pest management (IPM).

There existed a number of weaknesses in the NAEP for which it failed to bring about an expected breakthrough in the quality of extension services. These weaknesses can be classified into two; one at the management level and the other at the technical level. These weaknesses made NAEP non-functional, particularly because of non-availability of the operational fund. Also NAEP has the same fate as other donor-funded programs like T&V, which died upon discontinuation of the external funding.

Careful analyses of the above successes and failures reveal the major sources of weaknesses that are deeply seated in the whole system and almost always escape the attention of the planners. Our experiences of working at the grass root level provide some food for thought of the planners and policy makers to overcome the situation, at least in part, if not fully. Thus, strategies and new approaches for improving the service delivery of the DAE based on the experiences of working in the field have been presented in the foregoing sections.

Current Approaches

DAE follows the conventional flow path for information dissemination from research to farmers (Fig. 1). Several activities are performed at each layer of service providers before reaching target client. The approach followed before was top-down one without any participation of the target farmers during the planning processes. Recent changes are being tried following the group approach of NAEP through introduction of several projects. **Farmer Field School (FFS)** under Integrated Pest Management (IPM) funded by FAO, UNDP and DANIDA and then to a final approach of working with the **Common Interest Group (CIG).**

FFS started in mid-nineties which could not bring the desired outcome as well and has been trudging towards the fate of NAEP. The Integrated Crop Management (ICM) Club has been an integral part of FFS but seems to have week coherence and running parallel to it and or is merged with the CIG.

Problems:

1. Donor funded programs and projects dies soon upon discontinuation of the external funding
2. DAE observes some benefits of the systems but has no intention to internalize it due to speculated problem of funding from the revenue budget and loosing personal benefits.
3. CIG appears to a smaller group within a larger group. Thus, the larger group looses its integrity and is divided into several sub-groups to deal with specific field problems by a sub-group. Therefore, all farmers of a group do not have chance to share their experiences on the particular technology in one hand, and loose their sense of participation in a problem-solving session of the group on the other.

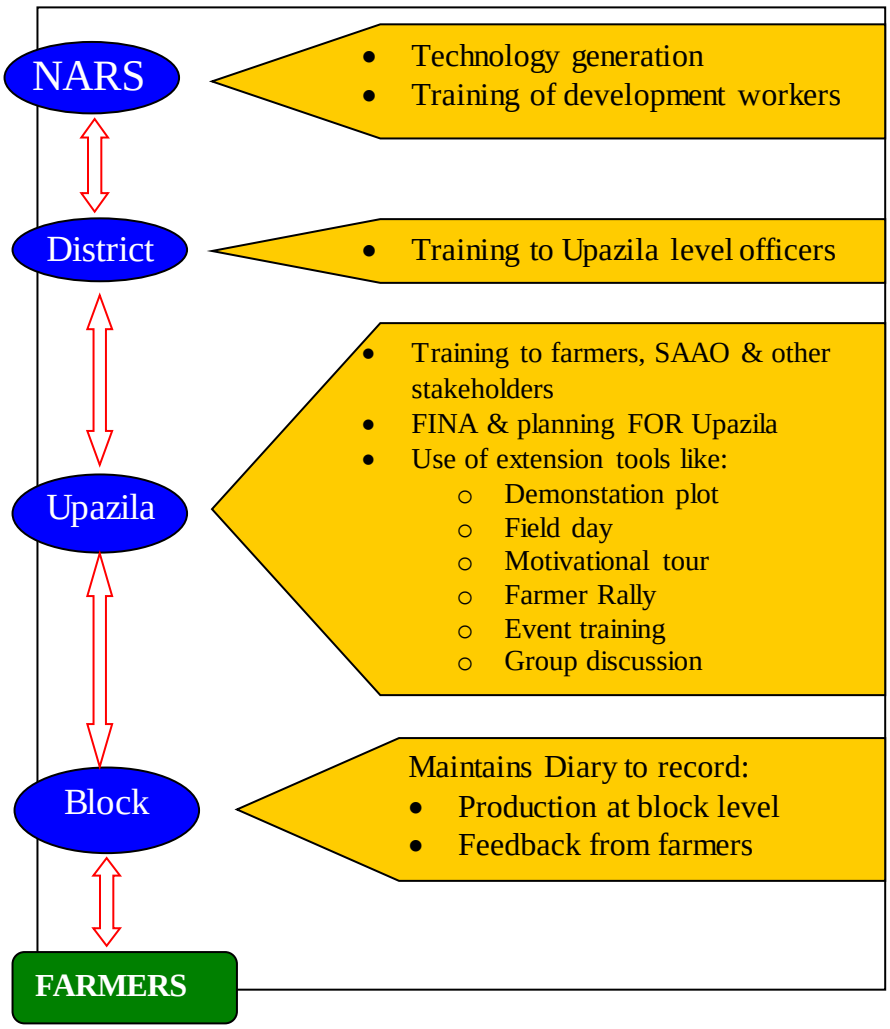

Figure 1: Information flow during technology dissemination system of DAE

New extension approaches: *Our experience*

The new approach is a take off from the lessons learned through various approaches and strategies followed before and integrates the lessons learned from the recent approaches followed in delivering agricultural extension services in the country.

NAEP offered a unique system of bottom-up planning which starts with problem census by the DAE grassroots level workers in the name of FINA (farmers information need assessment). Face to face dialogue between a farmer and an extension worker is the most efficient way of extension service delivery but meeting individual farmer is not a practical proposition. Therefore, the group approach as suggested in the NAEP is a partial solution to this problem.

Community Enterprise Organization (CEO)

A farmer group formed so far under various programs before has members with varying needs, mental attitude, social status, education, skill, hope and aspiration. Dealing with such heterogeneous group of farmers often brings up a variety of complexities. These groups lack coherence of farmers and thus could not emerge as a self-sustaining farmer group. To avoid this, a new concept of Community Enterprise is being tried with greater success. Here, a farmer group is looked at as an organisation with realistic functional modalities, sense of participation and ownership of all the activities of the group inculcating in a business development plan, and hence the name Community Enterprise Organization (CEO) is used.

The concept of the Community Enterprise approach intertwines various aspects of resource management for sustainable community development. The approach is a development action (community-led initiative for social business) that implies efforts for mobilization and utilization of local resources (such as human resources, natural resources, local opportunities and social capital) through the active participation of the total community. The people unite through social, financial and cultural linkage for common economic interest, regardless of class, religion, profession and gender. By way of active involvement and through training when required, the stakeholders became familiar with these concepts and processes thereby developing ability to contribute for better utilization of the household *vis-a-vis* community resources at both the household and wider community level.

The basic principles of the approach are as follows:

a. *Community engagement* – without targeting any specific target group such as 'the poor' or 'women', the model emphasizes the engagement of the whole community associated with the natural resources (such as floodplains) in the process, thereby offering opportunities for direct participation, ownership and empowerment of everyone, rather than risking the creation/exacerbation of social tensions among different groups within the community.
b. *Commercial approach* –the investment should be commercially viable through collective mobilization of capital from the community through the floating of shares, rather than dependence on credit.
c. *Formation of a representative management body* – the model facilitates the formation of a representative management body of 'Board of Directors' through selecting (by nomination or election) eligible leaders from the community. This Board of Directors is in effect the community-based organization that runs the enterprise.
d. *Establishment of Good Governance* – the model premises an enabling environment for good governance, allowing communities run the business through sustainable management of their resources. Strict control is imposed and considerable effort expended to maintain transparency and accountability in financial transactions. The practice of participatory decision-making is encouraged strongly from the beginning of the initiative and allows 'the right to information' for everybody. Standard book keeping and open to all systems are followed, whilst the organizer (such as DAE or NGO) hereinafter called *Catalyst* may provide support to the CEO in the areas of record keeping and preparation of

accounts, and provides training on transparent transactions through banks.

e. *Institutional partnership with the Catalyst* – the catalyst can be involved through share subscription (maximum of 20% of the capital) for their self-reliance and become a community partner involved directly in the community development activities and enjoying an equal share of loss or profit. This institutional partnership not only provides for a certain portion of financial investment from the catalyst but also ensures a forum for capacity building aspects of the model (see point f), as well helping to bring in regular Research & Development (R&D) ideas to each enterprise and create linkages with other external organizations.

f. *Capacity building training for the community*- catalyst should provide training to the farmers covering topics such as community leadership, record keeping, bio-diversity based ecological agriculture, integrated pest management, aquaculture, bio-diversity conservation and gardening etc.

g. *Formation of women-managed enterprises*- the mainstream community enterprise initiative should be accompanied by a parallel effort for organizing the women of the community through initiating savings, providing them with training on Income Generating Activities (IGAs), human rights, leadership and empowerment.

Effective agricultural extension tools

Several extension tools are currently in use by the DAE. These are: farmers training and or group discussion, personal contact with farmers by the DAE field workers, demonstration trials, motivational tour by farmers and field day. These are very effective extension tools. Nevertheless, often these are found to have lesser impacts on autonomous adoption of the new technologies being scaled up. Observations on the ground identified several flaws in the systems which are related mostly to human factors and to technical and socio-economic factors to a lesser extent. The major weaknesses in the existing agricultural extension tools are as follows:

1. Farmer training

   With an exception to a few:

   - Often the curricula are too rigid and do not allow farmers to participate. The curricula are of stereotypic in nature and are not demand-driven. So, the participating farmes take less interest.
   - Delivery is mostly one-way, from the trainer to the trainers, and thus there is no participation of the trainees.
   - Often the same participants attend a course repeatedly in a season or year since it is common to several donor-funded programs being implemented at the same time. This makes the delivery monotonous and less important to the farmers.
   - Sometimes non-farm participants are invited to fulfill the quorum of the trainee participants as per program when some genuine farmers do not turn up. These non-farm participants never take interest in the subject.

2. Demonstration plot

"Seeing is believing" and "Learning by doing" are two most important concepts for technology adoption by farmers. These concepts are implemented through demonstration of new agricultural technologies to farmers. DAE has been practicing this as a single most important tool for popularizing new technologies

among the farmers. However, we detected following weaknesses in the system.

- Selection of farm for demonstration trial is too rigid. In most cases DAE establishes demonstration plots in a group of farmers preselected long before and seldom they go to new farmers. This leads to failure of the demonstration due to wrong selection of the agro-ecology required for the technology to be demonstrated.
- Establishment and management of the demonstration plots are totally supported by the DAE and farmer has no investment in the event. This gives an impression to the farmers that "it is their business and not of mine" and thus farmers do not own the activity. This lack of farmer participation fails to create awareness about the technology in most cases.
- Sometimes the demonstration plots are established in a field far away from the public thoroughfare and thus escapes attention of the target groups.

3. Field days

'Field day' is an important extension tool through which a large number of farmers are exposed to new technologies. Often this event is seldom linked to most of the technologies being demonstrated and thus the neighboring farmers have no chance to share with the experiences of the demo farmers at any stage of demonstration trial. Thus, the neighboring farmers have no chance to share experiences of the demo farmers at any stage of demonstration work and they fail to gain confidence in the technology as well as its required ecosystems. Moreover, the objective of reaching a large number of farmers with the technology becomes difficult.

This has been a very formal event whenever takes place. Instead, it should be informal and farmers should throng around a demonstration plot in the field and should exchange views with the demo farmer about the merits and demerits of the technologies being demonstrated.

4. Motivational tour

Visit to the best practice sites by farmers is found to have profound effect on adoption of agricultural technology. Farmers are exposed to the new technologies outside their region. This is one of the most powerful tool to motivate farmers where they, not only observe the technologies, but also observe other information related to the technology and have chance to share experience of the farmers practicing the technologies. This helps confidence building of the target farmers that leads to autonomous adoption of the technologies and help them to make self-judgment about the suitability of the technology in their areas.. It proves more powerful than the class room lectures in motivating farmers to adopt the technology. This should be a pre-requisite for establishing technology demonstration plots and has to be arranged in consultation with the research partners, preferably during regional performance trial conducted by research organization.

This event is seldom practiced and is not normally linked to a field program of DAE. The event is more costly and involves extensive mobility and manpower.

Case studies

Case study-1. Motivational tour: field based experience

Some case studies presented below will dig out in part, if not all, the uderlying problems of the technology delivery system of DAE currently being practiced and will

help the policy makers to suggest possible corrections so that the systems become effective.

Case study-1. Motivational tour: field based experience

Farmers from Noakhali chars who never visited conditions outside the district have been given training on modern rice varieties for two years. But many of them failed to appreciate the varieties so far. This group was taken to BRRI Gazipur and Comilla and to farmer fields at Bogra on a trip set out in motivational tours during the last season. The farmers were surprised to see the performance of the different rice varieties and since then they are placing demand for seeds of some varieties of aman rice in the coming season. Likewise in another motivational tour during the rabi season farmers observed how the farmers of Comilla are managing their vegetable field and many of them expressed to adopt those in their farms. Therefore, it is evident that we are able to do in one motivational tour what we could not do through the long-term farmer training

Case study -2. Farmer training

Lack of attention of the farmers to the speaker in a training class is a common feature. There are several reasons for this such as:

1. the training programs are not demand-driven;
2. the training curricula were of more conventional type and not based on the felt needs of the farmers;
3. one way deliberation by the speaker on a pre-fixed topic offered no scope for farmer's participation;
4. though the training program was intended for the members of he Farmer group, a lot of people with farming as a secondary profession were invited just to fill up the vacancies of the absentee group members so that DAE can fulfill the quorum of the trainees. These trainees had less interest in the subject offered than in other forms of incentives usually given to the attending farmers.
5. Use of any training materials such as posters, flip charts, live samples of pests and diseases etc. in the training class is not observed,
6. 'farmer's training' means only the classroom lectures and there is no need for a practice.

Here are some reports on case studies to clarify some of the facts mentioned above. These are clear indications that there was no real demand for the services requested for. However, farmers may not be blamed for not responding to the promised services since it is their perception that they should be getting free services and even inputs, particularly from the DAE, as a prerogative of the clients (farmers) in this country. Unless this perception is changed, no real participation of the farmers can be expected and a slower progress in agricultural development will tend to persist in the country.

Case Study 2a

CDSP-II consultant organized mini workshops with the farmers of two chars to get their views about the constraints for adoption of modern varieties of rice in the chars. All of the participating farmers identified four major constraints for agricultural development in the coastal chars and these are: (1) lack of knowledge about modern agricultural technologies, (2) unavailability of seeds of the modern varieties of crops in the areas, (3) high soil salinity, and (4) unfavorable moisture conditions. They prioritized two events such as farmer training and making seeds

available as the primary steps for solving these problems. When we promised to arrange such training we found none interested to participate the training program unless they get some financial support

Case Study 2b

There was a serious demand for seeds of improved rice varieties. Interested farmers were asked to prepare a list of farmers indicating name and the quantity of seed of rice variety they need and to submit to us along with the price as per BADC rate. A list of interested farmers with requirement of seed was submitted but without money. Subsequently none of these farmers came to us for any servic

Case Study 3

We tried to assess the impact of classroom lecture on the farmer's perception at the end of some classroom lectures on important topics. Individual farmers in presence of the speaker were asked to mention at least one message that he got from the just-concluded lecture. Most of the farmers except a few very young farmers (actually not true farmer but student-cum- farmers) could not mention a single body of knowledge he gained from this class lecture.

6. Recommendations

Current approaches for sustainable agricultural technology dissemination by DAE and their limitations and prospects of improvement have been discussed in the document. Based on the facts discussed above, following recommendations are made for consideration of the DAE high ups and the policy makers while revising the new agricultural extension policy documents.

1. Technologies being demonstrated must satisfy farmer's demand. Only then true participation of farmers can be expected.
2. Promotion of technology using various extension tools must be through the CEO, unless otherwise demanded by a section of the community for valid reason(s).
3. Following issues need to be addressed to make the various extension tools used by DAE more effective: CEO should arrange training program whenever needed in consultation with the DAE local staff. Farmers should participate the training course, preferably at their own cost, so that they own the activity.

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