

Proceedings of BAEN Policy Dialogue-1: Strengthening Coordinated Advisory Services for Sustainable Agriculture in Bangladesh

Background

Bangladesh is an agrarian country. A large number of Extension and Advisory Service (EAS) Providers are working in Bangladesh. These include organizations in the public, private and voluntary sector. New information, knowledge and skills related to agriculture (including crop, livestock and fisheries) are provided by these organizations through farm and home visits, farmer trainings, group meetings, demonstrations, farmers' field school, mass media (radio, television, newspaper and magazine), motivational campaigns, exhibitions etc.



Dialogue Procedure

Following steps were followed for conducting the Policy Dialogue:

- Preparation of a list of 9 topics for the Dialogue
- Conduction of an email survey to select the best topic
- Selection of best topic with slight modification as “Strengthening Coordinated Advisory Services for Sustainable Agriculture In Bangladesh” in the National Steering Committee (NSC) meeting of SAAS project (Bangladesh part).
- Preparation of draft concept note of the dialogue
- Sending the concept note to relevant Experts and publishing in the BAEN website for comments, additions, deletions, modifications and corrections
- Finalizing concept note for the dialogue
- Conduction of Policy Dialogue at BARC conference room on 20 April 2019
- Meeting with Rapporteurs of the Dialogue for finalizing recommendations
- Preparation of the Proceedings of the Policy Dialogue with recommendations

Some organizations are also disseminating agricultural information through call centers and ICT tools like cell phone. Some organizations are providing access to complete knowledge on specific crops and services to the user by providing different mobile apps both online and offline. In some cases, extension and advisory service providing organizations are arranging farmers' visit to different research centers, universities and successful farms for gaining agricultural information, knowledge and skills (Ali, 2016).

Through these initiatives, Bangladesh achieved a lot in the agriculture sector. But still a significant proportion of farmers of Bangladesh remain untouched from these initiatives as they are not getting adequate support and information for addressing the challenges they face in farming. Katalyst (2014) reported that in Bangladesh agencies responsible for agricultural, livestock and fisheries extension services face resource limitations, both in manpower and finances. Upazilla(Sub-district) level officers and their field staff are often unable to meet principal information needs of the majority of the farmers within their jurisdiction.

Planning Commission (2015) noted that the main extension services provided by Department of Agricultural Extension (DAE), Department of Fisheries (DOF) and Department of Livestock Services (DLS) are mostly dependent on project funds. The major weaknesses of this project dependency are that certain areas seem to attract repeated projects whereas others get none; duplication of efforts, while

similar approaches may be tried repeatedly without success; and the content of the extension may depend on the parameters set by the project rather than a consideration of local need. Interestingly, many important innovations which took place during project period, could not sustain when the project ended. To address these shortcomings, the Seventh Five Year Plan suggested creation of a database of completed project records, to help identify future project directions. The report also noted that to improve the relevance of extension, it may be considered to revive the previous Upazila Agriculture Extension Coordination Committee and District Committees etc. These were quite effective with bottom-up planning approach with the participation of research and other extension departments, with support from funds allocated at district level.

Coordination of combined and integrated extension service is one of the important elements of proposed National Agricultural Extension Policy 2019. In this policy, it is suggested to form “National Agricultural Extension System” by the coordination of Government and Non-Government extension service providing organizations of crop, livestock and fisheries sectors. On these considerations, the Society for Bangladesh Agricultural Extension Network (BAEN) is organized this Policy Dialogue on “**Strengthening Coordinated Advisory Services for Sustainable Agriculture in Bangladesh**” with the financial help from IFAD funded “**Supporting Smallholder Farmers in Asia and Pacific Islands Region through Strengthened Agricultural Advisory Services (SAAS)**”.

Historical Perspective of Agricultural Education, Research and Extension Services in Bangladesh
Agricultural education, research and extension services in Bangladesh werestarted with integrating structure. In 1947, the Bengal Department of Agriculture became the East Pakistan Department of Agriculture with two wings (Research and Extension). The laboratory building at Farmgate was established in 1908 to catch the need of research and extension of Bengal and Assam. In 1968, the Department of Agriculture was bifurcated to separate directorates, like: i) Directorate of Agriculture (Extension and Management) and ii) Directorate of Agriculture (Research and Education).

The education under research includes agricultural colleges offering graduate degree. Bangladesh Agricultural Research Institute established in 1969 to conduct research on crop sector. Later research for jute, rice and some other crops were started.

After dividing into research and extension services under ministry of agriculture, extension service remains as government department while research service became autonomous institutions. Research institutions were developed with commodity based research institutions like jute, agriculture, rice, tea, forest, fisheries, livestock, sugar-crop and nuclear agricultural research by institutional support from bilateral & multilateral donors and government. Consortium of International Agricultural Research Centers (CGIAR) actors, particularly International Rice Research Center (IRRI), International Maize and Wheat Improvement Center (CIMMYT), and the World Fish played significant role in providing germ plasm and knowledge. After having significant development in agriculture, the technology dissemination process became actual focus to deliver technology to the end users. However, both research and extension services were developed with the creation of Department of Agriculture under the then Ministry of Agriculture.

However, the integrated system continued until it was divided into two streams of services into diverse institutional mechanism. Research based institutions developed and spread including outreach stations among different agro-ecological regions. Ministry of Livestock and Fisheries maintained extension services separately and research institutions established in 1984.

Crop based research was supported by international collaboration with germ plasm and knowledge service and helped in the development of research system. The built in institutional arrangement among research institutions allows closer interactions with Department of Agriculture Extension (DAE) through multiple activities.

With the passage of time this disintegration of technology system requires effective linkages among different actors more than before. It has been felt more critical with the situation when agriculture production system becomes more complex, demanding and knowledge intensive. Moreover, involvement of diverse actors became more important beyond agriculture like Bangladesh Water Development Board, Bangladesh Rural Development Board, Local Government etc. Collaboration

and coordination among these actors are central to development paradigm. Research institutes, particularly crop based ones played great role in organizing scientific events with extension services. Farming system research became a tool of strengthened coordination of all research and extension actors across the board. Fisheries and livestock research extension coordination could not get momentum as compared to crop sector. Reasons of these situation might be for uneven organizational structure, relative importance of crop sector in national economy, etc.

Coordinated Agricultural Extension and Advisory Services

Extension and Advisory Services (EAS) consists of all the different activities that provide the information and services needed and demanded by farmers and other actors in rural settings. The services assist them in developing their own technical, organizational, and management skills and practices so as to improve their livelihoods and well-being. EAS recognizes the diversity of actors in extension and advisory provision (public, private, civil society); much broadened support to rural communities (beyond technology and information sharing) including advice related to farm, organizational and business management; and facilitation and brokerage in rural development and value chains (GFRAS, 2012).

Actors in extension services in Bangladesh today have been with public bodies. Public sectors are Department of Agricultural extension (DAE), Department of Livestock Services (DLS), and Department of Fisheries (DOF). The strategies of the departments are equal across the country. However, the organizational strengths are unequal. DAE has agents until block (union) level while other two limit their manpower strength until upazilla (sub-district) level.

Besides Bangladesh Agricultural Development Corporation (BADC), Bangladesh Metrological Department (BMD), Department of Agricultural Marketing (DAM), Agriculture Information Service (AIS), On-Farm Research Division (OFRD) of research institutions, universities, CGIAR programme, etc. have their extension services. Universities are found active in delivering research services. In most of the regions visible presence of university research programs are available.

In private sector, mostly input dealers provide extension service more particularly inputs (seed, fertilizer, pesticides, agro-machineries etc.) The private research bodies are not uncommon and contributing technology generation particularly varieties. The dealers are available full time to deliver input delivery services including vaccinations.

Both electronic and print media are vibrant and visible in creating awareness in agricultural technologies. Almost all TV channels are broadcasting agro based programs. Research institutes also have its on-farm research facilities.

Research institutes have institutionalized their research review programs and different technology dissemination practices with the participation of extension agents, NGOs and private sectors. Also the crop based institutes organize different training programs based on season's field activities. The farmers training have been institutionalized in different research institutions. Farming system research was found to be very useful and working with farmers' field in collaboration with research and extension services locally. However, the approach is not visible recently.

Complimentary to this, working together of research and extension with livestock and fisheries has not become successful compared to crop sector. Interestingly, while talking about strengthening coordination of all actors and number of attempts have been made, it is observed that scanty study/research on Farm Advisory services coordination and or effectiveness of extension services has been undertaken either at university or research institutions. The study need to answer question on how to strengthen the coordination among the actors of diversified fields of complex production system.

The key question remains with what lessons we learnt during last 20 years of coordination and cooperation. The approach of formal coordination among relevant agencies is found to be unsustainable and often short lived due to donor project based.

Why Coordination?

The coordination needs no justifications in the situation when all kind of development programs either by public large project interventions or private led activities affect agricultural production system or environment. Few examples like:

- Flood plain when dries- influenced by crop policy environment, When under water influenced by fisheries
- Seed system involves NARS, SCA, BADC, DAE, private company, dealer network and farmer
- When water control structures start functional- cropping pattern changes
- When industrial waste goes to the environment, it effects the crop, fisheries
- When price changes market determines agricultural commodities (Fish VS crop, rice VS mango)
- When Cropping intensity increases, DOF marks it fallow; when aquaculture increases, DAE marks fallow
- Unlike other countries, here agriculture is under different ministries –Ministry of Agriculture, Ministry of Livestock and Fisheries
- Media led information need validation through expert services
- With cropping system increases risk associated with pest and diseases increases in production system
- With agro-based industries emerging (primary and secondary processing), more market driven research extension approach comes in.
- As international and local innovation is going faster than regulations in diversified fields, regulatory system needs to be upgraded with better knowledge services

Recent Experiences in Coordination

National Agricultural Technical Coordination Committee (NATCC) at national level was established with the support from Agricultural Services Innovation and Reform Project (ASIRP) of Department of International Development (DFID) in 2003. Region, district and upazila (sub-district) level platforms were also established with this support. In such approach DAE, DLS, DOF, NGOs, research organizations, private sectors, and farmers were involved to identify farm problems and solutions. However, the approach was found not sustainable after the end of the project.

Later, under National Agricultural Technology Project (NATP) supported by the World Bank and IFAD institutionalized National Extension Coordination Committee (NECC) down to upazila level with the similar objectives but limited to crop sub-sector. It is however did not function during the gap until second phase started.

Very recently Agriculture National Technology Extension Coordination Committee (NATECC) at national level, Regional Agriculture Technology Extension Coordination Committee (RATECC) at region level, District Agriculture Technology Extension Coordination Committee (DATECC) at district level and Upazila Agriculture Technology Extension Coordination Committee (UATECC) at upazila level driven by Ministry of Agriculture cover crop sector technology dissemination. This needs to be supported by financial support and ensure accountability at all stages involving stakeholders. Further study will be needed to find best model for sustainability based on previous experiences locally and elsewhere.

Institutional Innovations through NATP

NATP established Farmers' Information and Advice Center (FIAC) at union level for information dissemination. There are also Common Interest Groups (CIG) at village level of NATP-DAE, NATP--DLS and NATP-DOF for disseminating agricultural information to the farmers of crop, livestock and fisheries sector respectively. These groups need attention in terms of sustainability and functionality.

Experience of India

- Agriculture Technology Management Agency (ATMA) is a registered society of key stakeholders involved in agricultural activities (crop, fisheries & livestock) for sustainable development in the district by integrating research-extension and decentralizing day to day management of Public Agricultural Technology System.

- KrishiVigyan Kendra (KVK) is an agricultural extension center in India. The name means “farm science center”. Usually associated with a local agricultural university, these centers serve as the ultimate between the Indian Council of Agricultural Research (ICAR) and farmers, and aim to apply agricultural research in a practical localized setting. All KVKs fall under the jurisdiction of one of the 11 Agricultural Technology Application Research Institutes (ATARIs) through India.
- National Institute of Agricultural Extension Management known as MANAGE formerly National Center for Management of Agricultural Extension is an autonomous agricultural educational institute located at Hyderabad, Telangana, India. The aim of the institute is to instill managerial and technical skills to Extension Officers, Managers, Scientists, and Administrators in agricultural economy to enable them to provide support and services to farmers and fishermen for practicing sustainable agriculture. Ministry of Agriculture & Farmers Welfare - training, research, education etc.

Proposed National Agricultural Extension Policy-2019

The proposed National Agricultural Extension Policy (NAEP) 2019 is made to encourage the various partners and agencies within the National Agricultural Extension System (NAES) to provide efficient and effective coordinated services which complement and reinforce each other, in an effort to increase the efficiency and productivity of agriculture in Bangladesh for ensuring food security and business development. The policy emphasized on the following areas:

- Diversification of extension services with mechanization, agri-business, agro-processing, agro-climatic advisory service, on-farm water management, agro-product branding etc.
- Farmers’ Organization based Extension Program
- Decentralized extension plan
- Export of agricultural products
- Sequential enhancement of e-agriculture
- Use of alternative energy in agriculture
- Investment in commercial agriculture
- Instructional capacity building including knowledge and skill
- Strengthening research-extension relationship to provide services at the right time to right person
- Natural resources management and input use efficiency
- Agro-tourism
- Adjustment with climate change
- Specialized extension services for stressed regions
- Coordination with the international agricultural organizations
- Enhancing Nutritional Safety
- Conservation agriculture like minimum tillage

Dialogue Issues

Some organizations are doing same works, but some works are not by done by none. Good agricultural practices and approached are practiced by some organizations. Most of the cases, these are not coordinated. Sometimes, contradictory messages are providing to the farmers. Agricultural inputs manufacturing and marketing companies are promoting to use more agro-chemicals, Government organizations are promoting judicious use of agro-chemicals and environment-friendly organizations are against the use of any kinds of agro-chemicals. Therefore, farmers are confused with theses contradictory messages. On these considerations, it is necessary to coordinate among the EAS providing organization to provide appropriate and validate message to the farmers and all the stakeholders of agriculture. Based on the above discussions, following issues are set to discuss in the policy dialogue for better coordination:

- Current organizational support for Agricultural Advisory Services
- Strength and weakness of the organizations
- Changes needed (nature and extent of collaboration, funding, donor support, priority setting, capacity, infrastructure, policy, etc.)
- Improve collaboration and convergence among line departments and across other actors in public, private, NGO and producers
- Ensure better and more targeted adaptive research

- Role of country level networks of Agricultural Extension & Advisory Service Providers in policy advocacy and capacity development
- Cross-cutting issues

Recommendations

In the Policy Dialogue, policy level representatives from crop, livestock, fisheries, IT, universities, research, NGOs, private sector extension service providers and farmers' leader took part in the discussion. After thorough discussion, following recommendations were made:

1. National Agricultural Extension System (NAES) should be formed as the Apex body of the Agricultural Advisory Service Providers comprised of different relevant stakeholders including public and private extension organizations (crop, livestock and fisheries), research institutions, universities, NGOs and so on to ensure coordinated agricultural advisory services.
2. Coordination of agricultural advisory service should be carried out at region, district and upazila level by forming Regional Coordination Committee, District Coordination Committee and Upazila Coordination Committee by involving actors from public & private extension, research and educational organizations, NGOs and producer groups.
3. Strength of the Extension and Advisory Service (EAS) providing organizations should be increased by increasing the number of manpower, capacity of the manpower and physical facilities of the organizations.
4. Holistic consultation (One Stop Service including crop, livestock and fisheries) should be provided to the farmers by establishing Agriculture Advisory Centers (AAC) at village/ward level to increase the capability for addressing adverse environment.
5. New funding sources, donor support should be found out for increasing the capacity of extension service providers and to increase the farm production.
6. Front level extension workers of livestock and fisheries sectors should be increased. Capacity of the Sub Assistant Officers (SAAOs) of the Department of Agricultural Extension (DAE) should be increased by providing livestock and fisheries knowledge until increasing the number of front level extension workers of the Department of Livestock Service (DLS) and Department of Fisheries (DOF) for providing holistic consultation to the farmers.
7. As a part of Access to Information (A2I) activities, e-Extension service should be increased by establishing e-information center at the AAC in each world of the whole country.
8. A national "Agricultural Knowledge Repository" or "Agricultural Knowledge Hub" should be developed and promoted containing good agricultural approaches, technological innovations, knowledge-based solutions with valid information.
9. Extension workers should be equipped with advance ICT-based knowledge and products to promote prompt and effective agricultural advisory service.
10. Agricultural Apps should be updated regularly by valid information.
11. National policy should be developed for using e-extension for e-agriculture.
12. Equal opportunity should be provided to the female farmers for their farming and related activities.
13. Knowledge-based agricultural advisory service should be promoted rather than input-based agricultural advisory service.
14. Capitalized local knowledge should be integrated with improved (national and international) knowledge.
15. Extension should be focused on 'pay-to-service' approach to promote and sustain agricultural services.
16. All level of public and private agricultural advisory service providers including input dealers should be provided with improved knowledge-based training based on skill-gap analysis to upgrade their skills in providing quality agricultural advisory services.
17. Universities should develop and offer a demand-driven curriculum to address the contemporary farm-related issues.
18. A crisis-response team should be formed comprising of multi-sectoral experts (e.g. scientists, academic staff, extension worker) to address the unique risk/disaster/epidemic issues.
19. Agricultural advisory service should promote and ensure 'compliance-based farming' practices that might ensure the profitable production system.

20. National and local level agricultural advisory tools and methods applying by different organizations should be harmonized and integrated to ensure clients' satisfaction.
21. Good agricultural practices/approaches should be collected, corrected, documented and disseminated.
22. Agricultural Universities and research organizations should actively participate in advisory services and disseminating agricultural innovations to the clientele with coordination of extension organizations like DAE, DLS, DOF, NGOs, private organizations, etc.
23. All prior and existing agricultural advisory approaches should be reviewed, analyzed and reformed according to the current farming needs.
24. Strong linkage should be developed by involving Extension-Research-Education-Farmer-Market related personnel to provide better services at the right time to right person to increase production, market information, weather prediction, agricultural credit, farm management, conservation agriculture, diversification & branding, create agricultural entrepreneurs, agricultural business, use of ICT, etc.
25. Participation of Extension Agent, Researchers, Academicians, and Farmers should be ensured in Research Institution Coordination Committee (RICC), Planning Meeting of Research Institutes, Extension-Research Workshop, Agricultural Extension Planning Workshop, Innovation Dissemination Workshop/Training, etc.
26. On-Farm Research and Multi Location Test should be conducted by involving Extension Agents, Researchers, academicians and Farmers.
27. Extension, Research organizations and universities will act together to solve the problems of Farmers' at Field level.
28. Studies to be carried out to find best sustainable model for strengthened coordination and accountability
29. Appreciation should be provided to the successful organizations, projects, farmers, and extension personnel for good EAS.
30. Studies to be carried out to find best sustainable model for strengthening coordination and accountability of mainstream actors. More adaptive research should be conducted to find out the appropriate extension approaches.
31. Monitoring, Evaluation, Accountability and Learning (MEAL) system must be ensured in Agricultural Advisory Service (AAS). The Society for Bangladesh Agricultural Extension Network (BAEN) can take this responsibility through NAES.
32. **Strategic extension policy should be developed for the followings:**
 - Farmers and agricultural entrepreneur-based extension services
 - Agricultural knowledge management
 - Increase production, market information, weather prediction, agricultural credit, farm management, conservation agriculture, diversification & branding, create agricultural entrepreneurs, agricultural business, use of ICT, etc.
 - Commercialization of Agriculture
 - Recognition of the farmers and agricultural entrepreneur as the development partner
 - Improvement of the capacity of the producers' organization in the management of value chain development
 - Advancement of e-agricultural activities
 - Adjustment with climate change
 - Specialized extension services for stressed regions
 - Quality assurance of input-surveillance
 - Use of agro-climatic information in crop production and marketing system
 - Increase in the allocation of revenue budget in extension services
 - Strengthening education-research-extension coordination
 - Coordination with the international agricultural organizations
 - Emphasize on the use of agricultural input aid cards
 - Sustainable soil health management
 - Preventing use of agricultural land to non-agricultural work
 - Reducing import dependence and encouraging export

- Use of geo-spatial data base, GIS, Remote sensing technology and precision agriculture
- Strengthening of environment-friendly agriculture
- Agricultural mechanization
- Limiting use of underground water for agricultural purposes
- Enhancing nutritional safety
- Conservation agriculture with minimum tillage
- Use of local funds in agriculture
- Agricultural tourism
- Branding of agricultural products for better marketing
- Skill and capacity improvement of farmers' organizations, agricultural entrepreneurs, extension service providing organizations and individuals
- Provide service through setting up of agricultural clinics and agricultural trade centers

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Dialogue Participants	
<p>A total of 66 individuals participated in the policy Dialogue as follows:</p> <ul style="list-style-type: none"> • Chief Guest: Mr. Md. Nasiruzzaman, Hon'ble Secretary, Ministry of Agriculture (MOA) • Special Guest: Mr. Sanat Kumar Saha, PD, NATP-2, MOA • Chair: Mr. Md. HamidurRahman, President, BAEN • Participants: <ul style="list-style-type: none"> - Vice Chancellors of Universities - Heads of Agricultural Organizations of Bangladesh - BAEN Executive & Advisory Committee and Working Group Members - National Steering Committee (NSC) Members of SAAS project (Bangladesh part) - Policy level representatives from NGOs and private sector - Farmers' Representatives 	<ul style="list-style-type: none"> • Concept note preparation & presentation: Dr. WaisKabir, Executive Director, KGF • Draft concept note & Final Proceedings Preparation: <ul style="list-style-type: none"> - Prof. Dr. Md. Sekender Ali, Secretary General of BAEN and Pro-VC of Sher-E-Bangla Agricultural University (SAU) - Sk. Md. Nur-E-Alam, Lecturer, SAU • Rapporters <ul style="list-style-type: none"> - Md. AfzalHossainBhuiyan, iDE - Dr. QaziAfzalHossain, DAE - Prof. Dr. Md. MahbubulAlam, SAU - Dr. AshokeKumer Roy - Ms. MasumaYunus • Conduction of email Survey: <ul style="list-style-type: none"> - Mr. Md. SaeedSiddik, Dhaka University
Dialogue Venue: BARC conference room Date: 20 April 2019	

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