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ASSESSMENT OF EXTENSION AND ADVISORY METHODS AND APPROACHES TO REACH RURAL WOMEN

—EXAMPLES FROM BANGLADESH—

By Dr. Rasheed Sulaiman and T.S. Vamsidhar Reddy

MEAS Evaluation Series

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EXECUTIVE SUMMARY

Very few peer-reviewed journal papers are available on agricultural extension in general. Of the papers that are available, they are focused on holistic approaches that are being used such as villages, groups, whole family training, and farmer field schools (FFS). These few documents discuss approaches that are being used specifically to reach women. The only information we were able to find was on the group approach, such as farmer field schools, thrift and credit, and use of ICTs and training. However, none of these were focused on women farmers. Entrepreneurship was also mentioned as an approach to reaching women.

Some of the literature did identify success factors for reaching women. The main ones use a bottom-up approach, which focuses on building groups, e.g., FFSs. The sustainability of these groups depends on financial, institutional, human, and social capital. Combining extension with an economic activity is also highlighted. From a gender perspective, making women's work visible is highlighted as significant to achieving family cooperation by working with whole family approaches, as this will go some way towards raising the profile of women.

In terms of constraints, there is a need to change the existing picture of gender inequality. Women are seen as beneficiaries rather than as participants in the development process. There was also some evidence suggesting that there is a need to address culture and local context in extension processes.

The grey literature reviewed highlighted three types of extension approaches being used in Bangladesh: FFSs, T&V, and ICTs. Out of these, only one paper mentioned the need to modify the FFS approach as a way of reaching rural women. A few papers identified factors for success of the FFS approach, including the need for appropriate training and monitoring FFS facilitators, as well as synchronizing activities with the cropping season. The only evidence on constraints noted was on the T&V system, namely lack of resources, poor flow of information, poor monitoring system, weak attempts at developing capacities of staff and frequent transfers. Further evidence on approaches to reaching women was identified from a range of NGOs working in Bangladesh. Of this information, five approaches to reaching rural women were identified. These are: creating a social infrastructure (e.g., union federations), value chain development, SHGs (e.g., for thrift and credit), ICTs, and women extension workers.

The case studies conducted support what was identified in the literature. The creation of strong social organizations is central to reaching rural women, e.g., through the formation of union federations and using groups approaches like FFS for training and building entrepreneurial skills. This approach seems to have a degree of flexibility and is participatory. There is also evidence to suggest that ICTs have the potential to reach rural women. The case studies highlight that reaching rural women effectively requires long-term presence, commitment in terms of human and financial resources, and the engagement of a number of stakeholders. The case studies also show that much of the initiatives being implemented via these approaches heavily depend on the resources and ability of women farmers to adapt.

1. INTRODUCTION

This report outlines the findings of the review of both peer-reviewed and grey literature on gender and extension/advisory services in Bangladesh. The reviews were centered on the following key research questions:

What extension methods and approaches are being used?

- What are their impacts? What is the level of uptake? What is the level of adoption?

Which of these approaches are targeting women?

- What are their impacts? What is the level of uptake? What is the level of adoption?

What are the success factors of these approaches?

- What are the constraints of existing approaches to reaching rural women: social, cultural, economic, technical, environmental, and infrastructural?

This report also contains case studies that were conducted in Bangladesh to provide evidence on the impact, scale-in-use, and benefits to women as well as challenges and constraints of the selected extension and advisory services being used. The case studies were also conducted to identify factors leading to the successes of the approaches being used and the constraints and challenges being faced by the implementers of the approach and the recipients (namely, women farmers).

The case studies selected for this research are on

1. Use of ICTs to reach rural women farmers: The case of e-Krishok
2. A case of reaching women farmers with community organization as the organizing principle: Union Federations promoted by RDRS in Bangladesh
3. Value-chain development for adoption of new agricultural knowledge: BRAC's initiatives in Khulna of Bangladesh with Sunflower

2. SYSTEMATIC REVIEW OF PEER-REVIEWED LITERATURE

A total of 30 peer-reviewed journal articles were identified through the systematic review process. However, during the data extraction process only 11 articles on Bangladesh were found to contain material relevant to the research question set out above. A breakdown of the article review and data extraction process is provided in Annex I. This section summarizes the peer-reviewed literature read based on the four key research questions.

What extension methods and approaches are being used?

Extension organizations in general have been using a wide range of methods to reach rural communities with new information and knowledge.

Riise, et al. (2005) presented a strategy developed by the Network for Smallholder Poultry Development (NESPOD), which involves not only disease control and introduction of improved breeds, but a holistic approach that takes into consideration social, cultural, marketing, credit, and general management aspects, focusing specifically on women. They reported that results from Bangladesh, Benin, Senegal, Burkina Faso, and Togo are very promising in terms of creating non-subsidized activities with clear benefits for poor farmers and for local entrepreneurs. The tools involved include sensitization of village groups and organization of women in poultry groups to training of village vaccinators, farmer field schools for poor illiterate women, organization of local vendors, use of private veterinarians, and the involvement of national research, education and extension institutions, and international organizations.

Meisner et al. (2003) found the 'whole family training program' as a very useful way of extending agricultural knowledge in Bangladesh. They used data from the joint initiatives between the Bangladesh Agriculture Research Institute's Wheat Research Centre (WRC) and the International Maize and Wheat Improvement Center (CIMMYT) to come to this conclusion.

Which of these approaches are targeting women?

Most of the extension approaches, which are presented above, are also being employed to reach women. The most important among these is the group approach where women are organized into groups for thrift and credit (SHGs), technology promotion (training, farmer field schools, video-mediated group learning) and participation in value chains.

Training on livelihood supporting ventures is also an important approach adopted by several agencies to support rural women. Rahman et al (2011) assessed the impacts of training provided to female farmers involved in pond fish culture in comparison to male farmers from different areas of Bangladesh. They found that the fish production in the ponds of trained female farmers increased significantly after they received training.

As part of enterprise development programs, women are formed into groups and associations of women entrepreneurs in Bangladesh (Huq and Moyeen, 2011). In Bangladesh, many NGOs are promoting entrepreneurship among rural women in livestock, poultry fisheries, and vegetable sectors (Kabir et al., 2011).

What are the success factors?

Islam et al (2011), based on the theories of collective action, studied six non-sustained and four sustained Farmer Led Extension (FLE) groups initiated through an innovative extension reform project in Bangladesh. They found that there are four sets of interrelated factors called 'capitals' affecting group sustainability; these include: 'financial capital' accumulated through group-based microcredit activities, an effective governance mechanism called 'institutional capital' devised by the members themselves, good quality group leaders and facilitators called 'human capital', and past relations of exchange, reciprocity, trust and respect called 'social capital' among members and between members and professional facilitators.

They noted that while microcredit can benefit sustainability, it suits women better than men farmers. They suggested that key strategies may include: combining extension (information or advisory functions) with economic activities but avoiding a one-size-fits-all solution, recruiting group leaders and facilitators by going beyond technical considerations (e.g., taking into account the personality traits identified in this study), adopting a bottom-up approach in devising group rules and regulations, and taking into account both the positive and negative aspects of social capital.

Makita, R. (2009) explores cooperation-conflict theory and concluded that cooperation surpasses conflict in the intra-family relations when women's work is visible. The results showed that cooperation within a family depends on how successfully the family can make women's income-generating activities compatible with their existing household responsibilities and the continuation of the male breadwinner's income source. In women's continuing work, the level of cooperation depends greatly on the amount and frequency of women's income and the family's level of indebtedness. Appreciation of these social and cultural factors can have a considerable bearing on future models of agricultural extension approaches and methods.

Jafry (2012) argues for the agricultural extension system to adapt to provide gender-equitable approaches to support the most vulnerable farming groups in the context of climate change, especially women. She argued that a gender-sensitive agricultural extension system is one support mechanism that can be used to design and develop meaningful programmers.

Kabir et al. (2011), using the sustainable livelihood analysis framework, studied the impact of small-scale agricultural entrepreneurship on livelihood assets of rural poor women and the role of NGOs in developing living standards for women. This study covering 300 sample women entrepreneurs involved in livestock and poultry, fisheries, and vegetables, found that livestock and poultry entrepreneurship is significant and positively associated with financial, physical, and social capital. In the vegetable sector, entrepreneurship is significant and positively associated with natural capital and physical capital, whereas in the fisheries sector, entrepreneurship is positive and significantly associated with human capital. They noted that the micro-credit and institutional support provided by the NGOs has a great impact on women entrepreneurs' standard of living.

What are the constraints - social, cultural, economic, technical, environmental, infrastructural?

Huq and Moyeen (2011) opined that the current approach to addressing gender is often weak and lacks adequate strategic focus on how programmers could contribute to changing the wider picture of existing gender inequality. They concluded that instead of overemphasizing the "cost-effectiveness" criterion that may exclude gender from program interventions, enterprise development programs should rather consider integrating gender as a matter of 'priority'. The important considerations should be the 'outreach', 'sustainability' and tangible 'impacts' that such integration could make in attaining gender-balanced development. They also noted that despite the intent for gender-balanced development in their strategy and policy documents, donor-funded enterprise development programs are still implicitly guided by the women in development (WID) approach that considers women as mere 'beneficiaries' of economic growth.

Doorenbos et al (1988) noted that agricultural policies, resource allocations, and service provisions that fail to recognize the extent of women participation in farming are irrational, and they reduce the efficiency and effectiveness of agricultural sector investments. They argued that special strategic interventions are required to reorient ministries of agriculture towards serving women farmers. They suggested data-based policy seminars for senior officials and administrators as an example of actions that help to bring about changes in attitudes and practice.

Qusumbing and Pandolfelli (2010) critically reviewed several recent attempts to increase poor female farmers' access to and control of productive resources, focusing on Sub-Saharan Africa and South Asia. Based on a review of literature from 1998 to 2008, they found that compared to interventions designed to increase investment in human capital, few interventions or policy changes that increase female farmers' access to productive resources have been rigorously evaluated. They noted that future interventions need to pay attention to the design of alternative delivery mechanisms, tradeoffs between practical and strategic gender needs, and to the culture- and context-specificity of gender roles.

3. SYSTEMATIC REVIEW OF GREY LITERATURE

What extension methods and approaches are being used in Bangladesh?

Very few of the documents reviewed contained relevant information on extension methods used in Bangladesh.

Bijlmakers (2011) discusses the details of the farmer field school approach. The publication presents an overview of the FFS training process in the Agricultural Extension Component. The document introduces the reader to the FFS approach, describes the history of curriculum development and technical content of the ICM FFS, and depicts the implementation process and past and current strategies. Bijlmakers and Islam (2007) discuss the reasons behind changes in the FFS approach over the period in Bangladesh.

Haque (2010) analyzes the strength, weakness, opportunities and threats in agricultural extension services in Bangladesh. The report aims at providing an understanding about the current level of extension services and the shortcomings of agricultural extension services from the point of view of producers, as well as from that group working on behalf of the producers. This unpublished report found that the Department of Agriculture Extension (DAE), the largest public agency with representatives at national, divisional, district, upazilla and village levels, offers only blanket services. Large-scale farmers do not consider it competent enough to provide advisory services. And the public extension services do not reach small-scale farmers to adopt technologies in the expected way. Along with the DAE, different types of stakeholders are involved in providing the extension services around the country. These include public research-cum-extension organizations, donor-supported rural development programs, non-government organizations, private agro-chemical input suppliers, and public community development and agricultural extension service providers. The services provided by these stakeholders are not enough in the context of farmers' benefits. Especially in the areas of char, haor, and the riverbank, the farmers are mostly deprived of getting the facilities of extension services. The researcher suggested that more detailed studying is required to understand different stakeholders thoroughly and suggests various ways of building collaborations among different service providers for effective action.

Reynar and Bruening (1996) investigate the perceptions of Bangladeshi T&V extension personnel with regards to the system. The report identified several serious constraints as perceived by the extension personnel at different levels.

Some documents have focused on the use of ICTs as an approach for agricultural extension. For instance, the Agriculture Team, Access to Information (A2I) Programme explored the possibilities of leveraging ICTs for the enhancement and development of the agriculture sector of Bangladesh in its report. It gives an overview of the sector, paints a vision for 2025 and explores how ICT can help implement the vision.

Approaches Targeting Women

Out of the above-mentioned documents, only the following article focused on targeting women farmers.

Bijlmakers and Islam (2007) did not discuss the FFS approach in relation to women, but did discuss the need to “modify the FFS approach” to suit women when they are the target group for extension programmers.

Success Factors

Only Bijlmakers (2011) presented the following factors for the success of the FFS approach:

- Develop good FFS facilitators
- Follow the principles of the FFS approach
- Synchronize with the crop season
- Provide continuous monitoring and technical backstopping by experienced master trainers

Constraints

Only the article by Reynar and Bruening (1996) contained relevant information. They identify the following key constraints for the training and visit (T&V) system in Bangladesh:

- Timely availability of production inputs
- Lack of vehicles
- Lack of resources for applying technologies
- Lack of capacity for disseminating technologies to the intended audience
- Lack of smooth flow of information from research to extension
- Lack of monitoring and evaluation
- Lack of trainings
- Frequent transfers

Evidence of successful agricultural extension approaches implemented by different organizations

This information is drawn from several documents collected from the internet. They include project documents, reports, annual reports, and presentations. Based on this information, a discussion of the key approaches that illustrate how these approaches are being used is presented here. Details of the approaches are given in Annex II.

Mainly five types of approaches to reaching rural women can be noted in Bangladesh. The first one involves building social infrastructure and then implementing an agricultural initiative through that structure to effectively reach rural women. When women are grouped together in different forms, the agricultural experts of the organization could talk to these groups instead of to individual farmers. Through this they can reach more women in a given time. The group approach is also expected to be more sustainable because there are some activities in those groups that bind their members together. There are some kinds of structure and procedures to which group members adhere. The following is an example for this approach.

- RDRS, one of the very well respected NGO operating in the northwest region of Bangladesh, has been adopting this approach. They organize small-scale and marginal farmers into community based organizations called Union Federations (UF). These are expected to provide voice and confidence to these sections of the communities to access resources, engage with different stakeholders, and improve their livelihoods. There exist about 359 such UF. Out of over 287,000 members in these UFs, more than 70% are women. RDRS' key agricultural development approach is Farmers' Field School (FFS). They have about 750 FFS and each FFS has a Farmer Promoter (FP) or local extension agent. With the support from RDRS staff, these FPs lead 15-20 farmers to understand agricultural technology. This FFS is based on the UFs created. Hence, women that are organized under UF are accessing agricultural knowledge through FFS.

The second approach seems to be focused on value chain development as a way of reaching rural women with agricultural knowledge. This approach includes activities such as identifying an appropriate agricultural product that is important for the livelihoods of people in a particular area, undertaking value chain analysis to understand strengths, weaknesses and opportunities, and developing value chains and connecting farmers in those value chains appropriately. This approach seems to have sustainability, as the economic benefit seems to motivate different agencies to be part of the initiative in their own interest, including farmers.

- The case of BRAC can be quoted as an example for this approach. They have developed value chains for several agricultural commodities including dairy, poultry, sericulture, etc. Since women are proactively included in BRAC activities, women are accessing knowledge. They adopt different approaches to engage women in these activities. In some cases, they have formed the women into groups, while in other cases they have employed extension specialists to reach women. Nevertheless, their core approach is centered on enterprise development and value chain development.
- IDE – Bangladesh has a similar approach for rural development. This national NGO adopts a market development approach for rural development. They focus on smallholder farmers. Their main activities include development of the rural markets, conservation of the resources and environment, rural marketing, and technology commercialization.

The third approach focuses on reaching rural women through self-help groups. Women are organized into groups and thrift and credit activity is promoted in those groups. The anchoring NGO builds capacities of those groups in handling the thrift and credit activities and also links them to their micro-finance wings.

Some of these NGOs have integrated agricultural support within their micro-finance activity, since many of their clients take loans for agricultural purposes. To ensure that this money provides better returns so that they will be in a better position to repay loans, the anchoring NGOs provide necessary agricultural advisory services. This approach displays a wider reach and sustainability through working with SHGs in which their members are bonded through an economic activity and whose capacities are built through a series of trainings. The following is an example of such a case.

- COAST is an NGO working with an emphasis on women, children, and the disadvantaged population of the coastal areas of Bangladesh. COAST is executing its programs and projects under two core divisions: 1) Economic Justice, 2) Social Justice. Economic Justice focuses on microfinance with the integration of a rights-based approach, primary health care and nutrition, coastal-integrated technology extension programs, and community-based disaster management. The CITEP's (Coastal Integrated Technology Extension Program) objective is to promote commercially viable income-generating activities in integrated agriculture without endangering the ecology, to promote and preserve local species and plants, and especially to protect the farmers from patents rights and the seed business. CITEP includes cow rearing, dairy farming, beef fattening, goat keeping (black Bengal), buck station, duck and poultry keeping, breeding (for producing fertile eggs), mini hatchery (rice husk method), AI (artificial Insemination), fish cultivation, and homestead gardening. They have deployed 28 technical professionals to support this program. They have also set up two technology extension centers called "Coastal Integrated Technology Extension Centre". From these centers, beneficiaries are receiving training and the introduction of local technologies in their agriculture.
- Similarly, Shushilan, a national agro-ecology and rights-based NGO working in the southwest coastal region, focuses on ensuring the livelihood security of the resource-poor community through promoting environmental health and sustainable agricultural farming systems. They have been working with women farmers by organizing them into groups and connecting them to markets. They provide holistic support to them.
- Similarly, the micro-finance wing of RDRS (discussed in detail earlier) has recruited agricultural experts to provide advisory services to SHGs. This is to ensure better utilization of the loans taken out by SHG members for agricultural purposes. Correct utilization of these loans is expected to ensure better repayments.
- The fourth approach seems to be about using ICT tools in reaching rural women. The wider adaptability and sustainability has not yet been established.

Reaching rural women through women extension workers is another approach adopted by several organizations. This seems to be a suitable approach for the current socio-cultural situation in Bangladesh where women face challenges when communicating with male members outside their families. However, sustainability and a wider reach are not yet established in this case. Since most of these initiatives are part of special projects and the women extension workers need to be paid to provide services, continuous support is necessary for this approach. The availability of appropriately qualified and skilled women

extension workers and their willingness to take up this type of work is also limited in Bangladesh. The following is an example of this case.

- The National Agriculture Technology Project (NATP) that is being implemented in Bangladesh has found this as a useful approach in reaching women farmers in difficult socio-cultural situations. Although it was not a planned initiative, they have found that some energetic and innovative women extension workers have been very useful in reaching women farmers with agricultural technologies. After realizing this, the NATP functionaries have been supporting those extension workers with necessary trainings and incentives. They have plans to promote this as an approach in future.

4. CASE STUDIES

Case study 1: Use of ICTs to reach rural women farmers: The case of e-Krishok

Where: Villages and homes in Bangladesh

What: e-Krishok and the use of Information and Communication Technology (ICT)-based services

Summary

This case discusses an agricultural initiative of Bangladesh Institute of ICT in Development (BIID) using ICTs to reach rural farmers with relevant knowledge. By utilizing the rapidly increasing popularity and use of ICT in Bangladesh, BIID developed and pilot tested an approach that it is currently promoting. Its approach builds on the existing government and private ICT infrastructure available in the country and on developing entrepreneurship to provide new advisory services to farmers. Apart from the provision of an SMS/voice call facility to subscribers of the service, farmers can avail support from BIID field officers who visit farmers, while also seeking support from local information centers called “Batighar”. Low awareness among farmers and other stakeholders as well as lack of reliable, locally relevant content are major challenges faced by e-Krishok. BIID is experimenting with several approaches to deal with these and other challenges.

Background

South Asia has witnessed several ICT-based initiatives for agricultural extension in the past decade. Most of these were pilot projects to test the application of different ICT tools in agricultural extension. In many cases, they were supported by generous grants from donor agencies. In Bangladesh, the Access to Information Programme (A2I) is a large-scale nation-wide initiative implemented by the Government of Bangladesh with the financial assistance from UNDP since 2007. As part of this, a common service Centre called Union Information Service Centre (UISC)¹ has been established at each of the Union Parishads (the

¹ The UISC were established with an aim of providing easy access of different services to the Bangladeshi rural population. These UISC are typically located in the Union complex in each village. Each Council of these centers has two local entrepreneurs who service the IT related service to the village people. Their services include internet browsing, e-mail, video conferencing with webcam, computer composition, scanning, printing, and computer training. These services are provided at very low (printing, computer training, etc.) or no cost (browsing, etc.). An online information encyclopedia (www.infokosh.bangladesh.gov.bd) is used to provide information to the

lowest administrative division). These centers are networked and empowered in such a way that any citizen of Bangladesh can access any information free of cost by visiting them.

Box 1 BIID:

BIID is a private company started in 2008 with an aim to support the development and promotion of Information and Communication Technology (ICT)-based services to serve the poor in a sustainable way through a market-led approach. They have started various initiatives to fulfill their aim in diverse sectors such as agriculture, health, education, and tourism. BIID considers e-Krishok a concept and promotional campaign to motivate farmers to use information and advisory services. The initial e-Krishok initiative was piloted in 10 locations targeting 2000 farmers and was supported by Katalyst, a project funded by a consortium of donors, including DFID, SDC, CIDA and Royal Dutch Embassy. This campaign promotes information and advisory services targeted to farmers by enabling them to address their agricultural problems and constraints to improve farm productivity. BIID has now scaled up e-Krishok as its the flagship initiative and extended the service all over Bangladesh.

Along similar lines, the GrammenPhone² has been operating Community Information Centers with an aim of providing internet access and other communication services to rural areas at a nominal cost since 2006. These centers are used for a wide variety of business and personal purposes, including accessing agricultural information.

The approach

BIID employs a combination of ICT tools supported by human intermediaries to disseminate agricultural knowledge to farmers. Though there is no exclusive focus on women in this approach, it is expected that ICTs will eventually help women farmers to access information from their homes or villages.

The key components in the e-Krishok are:

1. SMS based advisory services and Voice call based advisory services

Farmers need to register for the SMS and voice-based advisory services. BIID, in collaboration with the Grameen Phone, initiated this SMS/call back service via short code 16250. As part of this, farmers can ask for necessary information using SMS/voice calls. For registered farmers, information about critical crop production aspects is provided periodically. For handling the SMS/voice call requests, BIID has recruited some staff in their headquarters at Dhaka.

2. Advisory services through extension officers

villagers. The information made available to villagers on a wide range of subjects including agriculture, health, education, tourism, people's rights, environmental calamities and their management, business, employment, etc. Currently there are about 4,501 such centers, in almost every village in Bangladesh.

² This is a joint venture enterprise between the Norway-based telecommunication company Telenor and Grameen Telecom Corporation, which is a business venture of the Grameen Bank of Bangladesh.

Farmers are also encouraged to register for advisory services through BIID's pool of extension officers. For registered farmers/farmers' groups, extension officers visit during critical crop stages and provide necessary guidance and support. Farmers have different options to choose a combination of services of extension officers together with SMS/ voice calls.

3. Advisory services to service centers in villages, called Batighar ("Light house")

Under the Batighar initiative, an information Center, owned by local entrepreneurs, is established in the village. The Batighar owner/BIID franchisee provides services to farmers and others by charging a small service charge. For instance, a farmer in need of some agricultural information can visit the Batighar. Based on his/her request, the Batighar owner would use the computer and internet available in his/her center to access relevant information. If s/he could not get the needed information, s/he would help the farmer send an email to BIID specialist, seeking a solution. As of mid-2014 ten Batighars have been established in Bangladesh.

Box 2: Batighar

Batighars operate as a franchisee network with BIID. This arrangement is expected to ensure ownership of the Center's well as growth of the centers in terms of services. There is an agreement signed between the entrepreneur and BIID. The entrepreneur invests in setting up the Batigar, including its infrastructure. S/he pays BIID the one-time franchisee charges. In return, BIID provides necessary support for providing services (agriculture, health, education, tourism, etc.) and branding. The profit generated by providing services is shared at a pre-decided percentage between BIID and the Batighar owner. On average, a Center services 100-150 customers (both commercial & information) per day. To operate these initiatives, BIID has identified entrepreneurs in each of the villages called Business Promoters. They help in registering farmers to various BIID services and manage Batighar.

Evidence of impact/scale/benefit for women

The e-Krishok initiative is not a women-focused approach. However, it has the potential to service women farmers mainly because of the use of mobiles for advisory services. Different elements of the approach were piloted during 2008 and 2009. By the end of 2009, 100 community telecenters across the country replicated the service. By 2013, the campaign reached over 138,000 farmers directly enlisted with the campaign, provided information and advice to approximately 8,000 farmers, and benefited tangibly and measurably about 29,000 farmers. This initial success has lead BIID to plan for positioning e-Krishok as a service package across wider network of telecenters, as well as through the retailers of different input producers nationwide.

Now e-Krishok is in operation in 350 upazillas and is targeted to reach 500,000 farmers by 2015 through SMS/voice service. It is strategically driven to effectively reach farmers and underserved communities in the rural areas with relevant services delivered through the community telecenters or information centers and other ICT-based information networks. BIID is now offering e-Krishok service as a free service for farmers in collaboration with input suppliers and engaging the local retailers to facilitate the service.



Picture 1: Mr Shirajuddin, the Chairman of UP, Mr Mahabub-e-Elahi, the Business Promoter of BIID, and a Bathigar owner in the Aval Bazar village, Kapasha upazilla of Gazipur district, explains the usefulness of e-Krishok initiative. The Bathigar owner is also the entrepreneur for the UISC in that village. We were told that this is the model in many villages.



Picture 2: The local Sub-Agricultural Officers, Mr A.K. Malik Gazi and Mr Shakawat Hussain, felt that e-Krishok is a useful initiative that compliments them. Farmers can access e-Krishok in emergencies.



Picture 3: The e-Krishok farmers in the Aval Bazar village shared that they received advice from e-Krishok when their brinjal (eggplant) crop was suffering from fruit and shoot borer. However, the chemical prescribed by the specialist was not available locally.



Picture 4: The e-Krishok farmers are encouraged to display their badges on their homes. This is BIID strategy to promote their brand image.

Contributing factors for success

The initiative is in the early stages of implementation. The following seem to be the contributing factors for success up until now.

- Growing awareness among the Bangladeshi society about the usefulness of ICTs. Over the past five years the government of Bangladesh has been strongly promoting the use of ICTs through its various campaigns. The UISC has enhanced awareness of ICT application in rural areas.
- Strong donor support for pilot testing and promoting ICT initiatives on a business model.

Challenges faced

- Availability of locally relevant content is a major challenge in advising farmers on their problems and requirements.
- Farmers' unwillingness to pay for agricultural services.
- Lack of other support structures to make use of the best technical information provided.

Case Study 2: A case of reaching women farmers with community organization as the organizing principle: Union Federations as promoted by RDRS in Bangladesh

Where: Northwest Bangladesh

What: Rangpur Dinazpur Rural Services RDRS promoting Union Federations (UFs)

Summary

This case discusses the agricultural interventions of RDRS, one of the reputed NGOs that has been working in northwest Bangladesh for more than four decades. The northwest area of Bangladesh is characterized by smallholder farmers, where RDRS applied their Union Federation approach to build strong social organization of these communities. Agricultural programmers were subsequently implemented through the Union Federations. RDRS linked the UF to several of its agricultural programmers; this facilitated the UFs to access new knowledge and other inputs through demonstrations, trainings, and better links to other agencies involved in agricultural development. While the farmers' field school is the main approach for knowledge delivery, demonstrations and training are also used to provide new knowledge. RDRS's long-term engagement with the UFs and implementation of several agricultural programmers through the UFs has resulted in wide-scale adoption to new technologies by farmers and farmwomen in NW Bangladesh.

Background

The Northern region of Bangladesh is characterized by higher poverty and large numbers of smallholder farmers. This is also an area that suffers from severe seasonal poverty driven migration. RDRS, one of the reputed national NGOs in Bangladesh (Box 3), has been working with rural communities in northwest Bangladesh for more than 4 decades. Its main approach is about organizing the village communities through forming Union Federations (UF) and implementing developmental activities through them. According to RDRS, this approach is aimed at giving the rural poor the means and confidence to improve their livelihoods and to plan for a better future.

Box 3: RDRS

Rangpur Dinazpur Rural Services (RDRS) was established in 1972 with an aim to rehabilitate refugees in the Rangpur and Dinazpur areas from the War of Liberation. In 1976, a sectoral development program was launched to assist the poorest in agriculture, community development, health, and women's economic activities. Since then it has evolved as multi-sectoral rural development NGO working on four strategic priority areas: civil empowerment, quality of life (particularly in health and education), natural resources and the environment, and economic empowerment. They currently operate in 64 sub-districts and 475 Union Councils (spread over 16 districts) in the northern region and work with over 410,000 households of which more than 85% are women.

At the moment, there are about 359 UF consisting of 287,500 members. About 70% of these are women (199,245). Currently, out of 352 UF, 107 have women as chairpersons. In an effort to institutionalize the initiative, 224 UF out of a total 352 UF have now been registered with the Social Welfare Department. The additional advantage of this is that the government recognizes the registered UF and they are eligible to access government funds. The villagers through this social organization seem to have improved the quality of their own economic, social and cultural lives through several developmental initiatives. They could collectively raise the awareness of their problems and seek help.

After several years of promotion, these UF are now widely recognized and respected as progressive and democratic institutions in those villages. These UFs have empowered communities to fight for their rights and also take part in politics. For instance, 599 UF leaders were elected to Union Parishad (lowest tier of the local government) in the year 2011. They have established linkages with different departments for leveraging their services for the members.

These UFs focus on various aspects of livelihood promotion, including agriculture. The UF sometimes implement government programs such as tree plantation. About 64 UF have been receiving funding from the Bangladesh NGO Foundation (a government body that looks into NGO activities in the country) to help in the implementation of a diverse range of initiatives to benefit their members. RDRS continues to work with UFs and support them in their activities, including agricultural development.

Approach to reach rural women for agricultural development

RDRS has a two-pronged approach to reach rural women, namely forming UFs and implementing agricultural development initiatives through UFs.

Organizing UFs

Villagers are brought together into groups of 15-20 members. All groups in a Union³ are federated to form a Union Federation (UF). Each of these groups selects a member to represent them in the General Committee (GC) of their UF. All the group members in a Union meet once in 2-34 years to elect 9 members to represent them in the Executive Committee (EC). The Vice Chair position in EC is always reserved for women as well as three member positions in the EC.

³ The Union is the lowest administrative division in Bangladesh.

⁴ In registered groups once in two years is the mandated time frame while in unregistered groups it is once in three years.

Information Centers

These UFs have Federation Centers/People Information Centers equipped with computers and internet connection. These are located in upazillas (sub-districts). The UF members access a wide variety of information from these centers, including agriculture. They also have libraries attached to these centers, which contain books on various subjects, including agriculture. The other facilities attached to these centers are meeting rooms and offices.

Platforms for interaction

They have established 40 Professional's Forums (Peshajivi Forum): 8 at the district-level and 32 at the sub-district levels, consisting of representatives from all government departments along with UF representatives. They meet on a monthly basis to discuss relevant issues, opportunities, and to plan future initiatives. These forums are the platforms through which new projects to be implemented by different departments are announced, discussed, and their implementation modalities are worked out. Representatives from the UF in these forums ensure that benefits from these projects are leveraged by their respective communities.

Agricultural development initiatives:

Farmer Field Schools

RDRS's key approach for agricultural development is based on the Farmer Field School (FFS) approach, in which it uses the FFS as a platform to educate UF members on agriculture-related issues. To form an FFS group, interested farmers are identified and brought together into a group. Each FFS group has about 20 members. There are about ten FFS groups in a UF. These FFS groups are mixed groups of men and women, though the percentage of women in each group is greater, mainly because of RDRS' focus on working with women.

These FFS groups are not specific to a crop. Members of each FFS group meet once in a week at a pre-decided place, which could be a farmers' field or a meeting room in the village. Every week they discuss a topic of interest at that particular point in time. These topics could be about a crop, crop stage, or some other general issue of interest (health, education, etc.).

Based on project opportunities that arise, RDRS mobilizes and connects these FFS groups to specific projects and through these other extension approaches, such as demonstrations and trainings, are organized.

Demonstrations

When the Wheat Research Centre (WRC) came forward to collaborate with RDRS (Memorandum of Understanding signed in 2012) to demonstrate improved wheat varieties (BARI wheat 25, 26, 27), some FFS groups through their respective UFs were associated with this activity. These groups were linked with concerned WRC scientists to implement demonstrations in 14 farmers' fields. Similarly, the CSISA (Cereal Systems initiative of South Asia) project organizes its adaptive demonstrations on wheat and maize technologies through the FFS groups of UF. At the moment, CIMMYT and RDRS are working with farmer groups of UF at Mithapukur and Gangachare upazillas through the "Sustainable Interventions of rice-maize production system" project in Bangladesh.

Training

The Integrated Agricultural Production Project implemented by the DoA (Department of Agriculture), DoF (Department of Fisheries), DoL (Department of Livestock) and BADC (Bangladesh Agricultural Development Corporation) is operational in two hubs of the Rangpur and Borisal districts. All of these agencies work with farmer groups of UF and provide training to participant farmers. The program is also training staff of RDRS and other NGOs on various aspects.

Linkages

RDRS and WRC previously worked together for the Cornell University-supported project on Soil Management (Soil Solarization and Liming, funded by USDA). For these projects, the RDRS is the implementing partner, while the WRC is the technical partner. RDRS also partnered with an ACIAR project (addressing constraints of pulses in a cereal-based cropping system with particular reference to poverty alleviation in NW Bangladesh). Recently, a Dutch Farmers' Association (Agriterra) visited some UFs and has developed plans to work with them on developing agricultural markets. All these working linkages and relationships with RDRS and other agencies are helping UF members in accessing knowledge and resources for agricultural development.

Evidence of scale in use/impact/achievement/benefits to women

The FFS sessions organized in villages have been helping women farmers receive practical agricultural knowledge that they can immediately apply in their own/leased plots. They have also been using these sessions to clarify their doubts and address emerging problems in their crops. These FFS sessions have been designed to be flexible to include all relevant issues, including social issues. This flexibility has been useful in addressing issues that are specific to a particular village/household. Altogether they have about 1,400 FFS units spread across different villages. Each FFS unit typically has about 15-20 members. Out of the 1400 FFS units, 1,048 have only women participants.

Many members of UFs are also members of the Micro Finance (MF) groups promoted by RDRS. More than 300,000 villagers from the Rangpur division are members of the MF groups. More than 85% of these are women. Most of the borrowers use money for various agricultural purposes including leasing land for crop production, purchase of inputs, etc. The MF division of RDRS implements specific programmers for agricultural development. For instance, the northwest crop diversification project focuses on developing capacity among small and marginal farmers through loans for high-value crops. More than 49,000 farmers are members of this initiative, of which more than 50% are women.

Contributing factors for the success:

Social capital and platform for interaction

Organizing women into groups and then federating these groups at the Union level into Union Federations has given women a sense of collective strength. The participatory and need-based agricultural intervention that is built on this social organization has the distinct advantage of reaching large numbers of women farmers. The FFS sessions with groups of women have created a platform for interaction (sharing new ideas, getting feedback, learning from experience, etc.) necessary for application of new technologies in agriculture.

Beyond information and advice

The holistic support adopted by RDRS that allowed women farmers to get access to new knowledge along with credit (from the RDRS Microfinance initiative) and other inputs (from different agricultural programmers implemented by RDRS through the UFs) has been useful in supporting the adoption of new knowledge.

Long-term handholding

The long-term handholding support provided by RDRS to the UFs has been useful in building capacities of women farmers to align their activities with support from other agricultural agencies and leveraging their support for the benefit of UF members.

Technically qualified manpower

RDRS has a big team (80 staff) of agricultural specialists to oversee implementation of agricultural programmers. Of the 80 staff trained in agricultural sciences, 50 are post-graduates and the rest have diplomas in agriculture.

Limitations of the approach:

The social organization development that is the cornerstone of this approach requires long-term effort and significant investment by way of human and financial resources.

The FFS approach used to develop new capacities among farmers needs appropriately skilled staff and relatively larger resources for scaling-up in a large area.

Case Study 3: Value chain development for adoption of new agricultural knowledge: BRAC's initiatives in Khulna with Sunflower

What: Bangladesh Rehabilitation Assistance Committee's initiatives to promote the sunflower crop

Where: Khulna and Barisal divisions of Bangladesh

Summary

This case describes the approach implemented by a reputed NGO from Bangladesh – BRAC (Box 4) - for promoting a new crop (for the region – sunflower) in the Khulna and Barisal divisions in southwestern Bangladesh. This initiative is with women farmers mainly because that organization has strong focus on working with women. BRAC's success in this case was due to its approach of large-scale participatory-block demonstration and development of a value chain. BRAC's long-term presence in the region, provision of financial assistance to farmers to buy the needed inputs for growing the crop, organization of several knowledge sharing activities conducted during the growing stage of the crop, ensuring the availability of inputs locally and procurement of outputs, and finally its engagement of all relevant stakeholders in the initiative also contributed to its success.

Background

The cyclone Sidr that occurred in the Bay of Bengal during the November of 2007 was one of the worst natural disasters faced by Bangladesh. It severely damaged the lives and livelihoods of Bangladeshis in the

southern coastal regions, with some estimates indicating about 10,000 deaths. In order to rebuild and support the livelihoods of the affected people, BRAC introduced two new crops to the area – Maize and Sunflower – as part of the crop intensification program supported by the European Union.

Box 4: Bangladesh Rehabilitation Assistance Committee, BRAC

BRAC is one of the largest non-governmental development organizations (NGO) in the world. BRAC was established in 1972 with the objective of providing relief and rehabilitation in Sulla, Sylhet, following the end of Bangladesh's War of Liberation. Currently, it operates in 509 of Bangladeshi upazillas (spread over 64 districts). BRAC has programmers in diverse areas and reaches 113 million. They operate in most parts of Bangladesh and other countries in such areas as agriculture, health, education, microcredit, community development, disaster and climate change, gender, human rights, road safety, migration, and social enterprises. It has 2,661 field offices and has more than 100,000 staff in Bangladesh.

In its program on agriculture and food security, it builds systems of production distribution and marketing of quality seeds at fair prices, conducts research to develop better varieties and practices for the agricultural sector, offers credit support to poor farmers, and promotes the use of efficient farming techniques and proven technologies. Currently, BRAC has operations in Afghanistan, Pakistan, South Sudan, Sri Lanka, Uganda, Tanzania, Sierra Leone, Liberia, Haiti, and the Philippines.

Frequent flooding due to heavy rains and swollen rivers/canals leading to waterlogging of agricultural fields is a common feature in this area, especially during the kharif season (Amon). In addition to this, water in the canals in this region becomes saline during rabi season (November onwards) till the onset of monsoon rains (June). To address these issues, BRAC in consultation with agricultural experts selected maize and sunflower, which can tolerate these conditions better, as crops to be grown during the rabi season. These crops were considered better than the sesame crop that farmers have been normally growing in this area during that season.

During the current harvesting season, about 3,200 farmers under the guidance of BRAC have grown sunflower on about 4,000 acres of land. They have plans to bring 16,000 acres of land under sunflower cultivation by next season (end of 2013). BRAC has set up a processing factory near Rupganj, Naraonganj and has made all arrangements to introduce sunflower oil by the end of 2013, under the brand name of 'Shufola'. They have plans to sell this oil at Tk 160-170 per liter — around 31 percent lower than the prices of imported sunflower oil.



Picture 5: Completely damaged sesame fields due to waterlogging in the Tetultola village of Botiaghat upazilla of Khulna district.



Picture 6: Farmers that are part of block demonstration of sunflower in the Jobai village of Kachua upazilla of Bagerhat district.

The Approach

In Bangladesh, BRAC's approach for agricultural development generally has two key features: large-scale farmer participatory block demonstrations and value chain development. These were employed together in the current case as well.

Farmer Participatory Block Demonstration

According to BRAC staff, the block demonstration is the best way to help popularize a new technology or crop production practice (Box 4). They implement these block demonstrations in a participatory way (farmers test the new technologies in their own crops/fields under the guidance and support of BRAC staff). This approach is expected to showcase relevance of those technologies/production practices to the local conditions, thus encouraging local farmers to take a favorable decision to adopt the technology on a large-scale.

Establishing linkages with different organizations

At various stages of implementation of these demonstrations, relevant local agencies, such as local leaders, the Union Parishad functionaries, Department of Agriculture representatives, agri-input traders, etc., are involved appropriately. Through this, necessary linkages of farmers are established with locally relevant agencies.

Training and field days:

Necessary trainings are provided during various stages of the demonstration. A field day is organized at the end of each demonstration by inviting local farmers and other agencies help popularize the success in a particular area.

Value chain development:

This approach includes creating necessary market linkages that are required for adopting the technology/cropping practice. For instance, BRAC's provide needed inputs to its identified/selected network of agri-input dealers who are mandated to supply these inputs at pre-decided prices to farmers. At harvest time, farmers' output is procured at pre-decided prices. Often, BRAC's enterprise division sets up necessary processing facilities for utilizing these outputs from farmers (Box 5).

Box 5: BRAC's Agricultural Extension Approach

The approach focuses on promoting new and better agriculture technology to farmers through farmers' participatory large-scale block demonstrations. They organize a group of 40-50 marginal farmers and provide them partial grants to cultivate and use modern varieties of crops, fishes, and production technologies and practices. Their extension staffs provide adequate training and the latest information for getting better production from their fields. They are presently operating extension activities at 50 upazillas of 12 districts in Bangladesh.

BRAC is targeting to cover around 60 thousand direct beneficiaries with improved technologies by the year 2015. Cash grants of BDT 9,000-8,000 per acre for rice and BDT 3,000-7,500 per acre for non-rice crop cultivation are provided to the participating farmers to buy seed, fertilizer, pesticides, land preparation, and irrigation services. The program is also providing a cash grant of BDT 10,000 for fish cultivation to buy fingerling, feed, and fencing. The beneficiaries are provided with cash grants to buy different inputs, available in the local markets. BRAC is aiming to cover 41,000 acres under hybrid rice cultivation, 30,000 acres under HYV rice cultivation, 14,000 acres under maize cultivation, 19,000 acres under sunflower cultivation, 2,000 acres under mustard cultivation, and 1,500 acres under sesame cultivation during 2012-2015.

Introducing sunflower in Khulna and Barisal:

Following the above approach, the BRAC's enterprise division identified suitable sunflower hybrids for the region, procured seeds (from different agencies across the world), tested them in their own experimental farms, and multiplied seeds of selected hybrids. This seed was provided to the selected input dealers in the region. Farmers were notified about the input dealers and the seed to be used. The same input dealers were tasked with purchasing appropriate quality seeds from farmers. The BRAC's enterprise division purchased this seed from input dealers to be used in their processing facility for making oil.

The following are the key stages of the approach in promoting sunflower:

Identifying suitable location for demonstrations:

BRAC NGO functionaries conducted a survey to identify suitable locations for the block demonstrations. Local representatives from the department of agriculture and the Union Parishad were contacted for this purpose.

For these demonstrations, they required a group of willing farmers with adjoining lands to demonstrate the new crop. Each block typically has 30 – 40 acres with each farmer holding less than one acre.

Farmer meetings:

After selecting the potential sites, meetings were organized with farmers to discuss the program, terms, and conditions of its implementation, roles and responsibilities of different agencies. All relevant stakeholders, such as representatives from the local government, and department of agriculture, were invited for this meeting. Upon mutual agreement, these blocks were finalized along with participating farmers' names in each block.

Demonstrations:

After completing these formalities, the demonstrations were initiated. BRAC provided grant money (Taka 7,500-00 per acre land in two instalments. First instalment of Taka 2500-00 was provided to individual farmers to purchase the recommended seed from notified seed dealers from local areas. These notified seed dealers of BRAC received that seed from BRAC seed enterprises. At the 4-5 leaf stage of the crop the remaining amount of the grant money was provided to individual farmers to purchase other inputs (fertilizers, pesticides, etc.).

Trainings:

In the beginning, training on technical aspects of seed sowing was provided to participating farmers. At the end of each crop growing stage, trainings were provided by inviting farmers in each block to a commonplace. The agricultural personnel of BRAC along with representatives of the Department of Agriculture were invited periodically to visit the demonstration sites and provide technical backstopping during the crop-growing period.

Field days:

At harvest time, field days were organized at each demonstration block by inviting farmers from respective local areas. BRAC functionaries shared information about the price at which they would be willing to procure harvested sunflower seed from farmers.

Procurement:

Though farmers were given the option of selling their produce to BRAC or to any other agency of their choice, most of the farmers sold their produce to BRAC enterprises through local input dealers. Few farmers used their seed to produce sunflower oil for their own consumption by crushing it at the local oil mills. They could produce about 4kg oil from 10 kg seed.

Evidence of scale in use/impact/achievement/benefits to women

Currently about 3,200 farmers, under the guidance of BRAC, have grown sunflower on about 4,000 acres of land. It is expected that about 16,000 acres of land would be under sunflower cultivation by next season (end of 2013).

Most of the farmers involved in this initiative are women. During the interviews, women farmers involved in this initiative shared about the benefits they realized through growing this new crop. In the Jobai village, the lowest yield was eight-mounds/0.75-acre land while the highest was 21-mounds/acre. (1 mound is 37.32 kg). There was an approximate 5-10% loss due to waterlogging but their neighbors had a 100% loss of their sesame crop due to waterlogging conditions during the same period. They also informed that the benefits of higher crop productivity are not exclusively for women, as agriculture is mostly a family business in that area. Women farmers were happy that 'their crop' (original idea about growing this crop was floated by them in their homes/families, after learning from BRAC's representatives) performed well. However, they informed that the decision to grow a new crop was taken in a joint manner between women and men. They readily agreed to grow this new crop because their current crop (sesame) was quite sensitive to waterlogging conditions and they wanted to check if the new crop (sunflower) has better growth potential. The fact that a grant (BT 7,500-00 per acre) was available for growing this new crop

encouraged them because in the worst-case scenario they would only be losing the labor that they had invested in growing this crop.

Contributing factors for success

The key contributing factors for success seem to be:

- *Long-term presence of BRAC:* BRAC has been operating in that area for many decades. Farmers in that area know BRAC staff personally and have benefited from their help in social organization, micro-credit activities and other rural development initiatives. Because of these connections, there exists trust for the organization and its staff who promoted these initiatives. Farmers agreed to cultivate the new crop without much apprehension based on their trust in BRAC staff.
- *Financial support:* Financial assistance in the form of the grant assured farmers that their risks of crop failure were covered to a large extent. It also encouraged them to try a new crop.
- *Value chain approach:* The approach involved all key elements of the sunflower value chain. BRAC introduced the best quality seed suitable for the region through BRAC's seed enterprises and made it available at the right time through local agri-input dealers. Technical knowledge required for the crop production was provided at each stage of the crop growth through both BRAC's agricultural specialists and representatives from local agricultural department. The produced crop was purchased through local agri-input dealers for further processing and marketing by BRAC's agri-enterprises division. This provided necessary support for farmers and reduced their risk in crop production.
- *Convergence:* BRAC's staff belonging to various sub-divisions converged to ensure success for the initiative. BRAC's multiple connections with diverse agencies in the region ensured engagement of all relevant stakeholders in this initiative from the beginning (including departments of the government such as agriculture and Union Parishad). This ensured overall support for the initiative.

Limitation of the approach

The adoption of a value chain approach ensures successful application of knowledge; to promote such an approach requires considerable resources as well as the ability and willingness to take risks.

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ANNEX I

Bangladesh Peer-reviewed Literature Data Extraction

Doorenbos, J., Haverkort, B. and Jiggins, J (1988). Women and the rationalisation of smallholder agriculture. *Agricultural Administration and Extension*, 28, 101-112

Q1: What extension methods and approaches are being used?

- The article argues for rational agricultural policies for benefitting women. Some strategies have been suggested. For instance, building a critical mass of women civil servants in agricultural ministries, action research involving both national administrators and field staff for enhancing understanding of women's role in agriculture among male staff of ministries, and appropriate institutional/structural changes in ministries for integrating services for women from mainstream provisions and budgets.
- The article also suggests some approaches for rationalization. For instance, data-based operational policy seminars and empowering agricultural extension with more female staff.

Q2: Which of these approaches are targeting women?

- The article is totally focused on targeting women.

Q3: What are the success factors?

- The article does not cover this aspect.

Q4: What are the constraints- social, cultural, economic, technical, environmental, infrastructural?

- The article does not specifically cover these.

The article noted that agricultural policies, resource allocations, and service provisions which fail to recognize the extent of women participation in farming are irrational, plus they reduce the efficiency and effectiveness of agricultural sector investments. They argued that special strategic interventions are required to re-orient ministries of agriculture towards serving women farmers. They suggested data-based policy seminars for senior officials and administrators as an example of actions which help to bring about changes in attitudes and practice.

Islam, M.M., Gray, D., Reid, J. and Kemp, P. (2011). Developing Sustainable Farmer-led Extension Groups: Lessons from a Bangladeshi Case Study. *Journal of Agricultural Education and Extension*, 17(5), 425-443.

Q1: What extension methods and approaches are being used?

- The article discusses the Farmer-led-Extension (FLE) approach.

Q2: Which of these approaches are targeting women?

- The article does not have particular focus on women farmers.

Q3: What are the success factors?

- The article does not cover this aspect

Q4: What are the constraints- social, cultural, economic, technical, environmental, infrastructural?

- The article does not cover this aspect.

The article studied six non-sustained and four sustained Farmer Led Extension (FLE) groups initiated through an innovative extension reform project in Bangladesh; the results were drawn by comparing the groups based on the theories of collective action. They found that there are four sets of interrelated

factors called ‘capitals’ affecting group sustainability: ‘financial capital’ accumulated through group-based microcredit activities, an effective governance mechanism called ‘institutional capital’ devised by the members themselves, good quality group leaders and facilitators called ‘human capital’, and past relations of exchange, reciprocity, trust, and respect called ‘social capital’ among members and between members and professional facilitators. They noted that while microcredit can benefit sustainability, it suits female rather than male farmers. They suggested that key strategies may include combining extension (information or advisory functions) with economic activities whilst avoiding a one-size-fits-all solution, recruiting group leaders and facilitators by going beyond technical considerations (e.g. taking into account the personality traits identified in this study), adopting a bottom-up approach in devising group rules and regulations, and taking into account both the positive and negative aspects of social capital.

Huq, A. and Moyeen, A. (2011). Gender integration in enterprise development programmers. *Women’s Studies International Forum*, 34, 320–328.

Q1: What extension methods and approaches are being used?

- The article argues that any development initiative in the country must consider ‘gender mainstreaming’ as a matter of priority and adopt the Gender and Development (GAD) approach as opposed to the Women in Development (WID) approach to ensure that women are enabled to act as ‘agents’ of the intended pro-poor growth.

Q2: Which of these approaches are targeting women?

- The article is totally focused on targeting women.

Q3: What are the success factors? The article suggests the following issues to be considered for success:

- Gender focus in project documents and strategy papers
- Gender equality among project staff
- Gender equality in employment within assisted enterprises
- Reducing the gender gap in enterprise promotion
- Gender focus in design and implementation of interventions
- Gender responsiveness of service providers

Q4: What are the constraints- social, cultural, economic, technical, environmental, infrastructural?

- The article does not cover this aspect.

The article analyzed data collected from enterprise development programmers that operate within the framework of Business Development Service (BDS) market development, women entrepreneurs associations and BDS providers in Bangladesh. The findings suggest that the current approach to addressing gender is often weak and without adequate strategic focus on how programmers could contribute to changing the wider picture of existing gender inequality. They concluded that instead of overemphasizing the “cost-effectiveness” criterion that may exclude gender from program interventions, enterprise development programmers should rather consider integrating gender as a matter of ‘priority’. The important considerations should be the ‘outreach’, ‘sustainability’ and tangible ‘impact’ that such integration could make in attaining gender-balanced development. They also noted that despite the intent for gender-balanced development in their strategy and policy documents, donor-funded enterprise development programmers are still implicitly guided by the women in development (WID) approach that considers women as mere ‘beneficiaries’ of economic growth.

Jafry, T. (2012). Global trade and climate change challenges: A brief overview of impacts on food security and gender issues. *International Journal of Climate Change Strategies and Management*, 4(2), 442-451.

Q1: What extension methods and approaches are being used?

- The article argues for a gender-sensitive agricultural extension system.

Q2: Which of these approaches are targeting women?

- The article is totally focused on targeting women.

Q3: What are the success factors?

- The article does not cover this aspect.

Q4: What are the constraints- social, cultural, economic, technical, environmental, infrastructural?

- The article does not cover this aspect.

The article provided an overview to support the argument that the agricultural extension system needs to adapt to provide gender-equitable approaches to support the most vulnerable farming groups in the context of climate change. She argued that a gender-sensitive agricultural extension system is one support mechanism that can be used to design and develop meaningful programmers.

Kabir, M.S., Hou, X., Akther, R., Wang, J. and Wang, L. (2011). Impact of Small Entrepreneurship on Sustainable Livelihood Assets of Rural Poor Women in Bangladesh. *International Journal of Economics and Finance*, 4 (3), 265-280.

Q1: What extension methods and approaches are being used?

- The article used the sustainable livelihood analysis framework to highlight impact of NGO's work on women empowerment.

Q2: Which of these approaches are targeting women?

- The article is totally focused on targeting women.

Q3: What are the success factors?

- The article does not cover this aspect.

Q4: What are the constraints- social, cultural, economic, technical, environmental, infrastructural?

- The article does not cover this aspect.

The article studied the impact of small-scale agricultural entrepreneurship on livelihood assets of rural poor women and the role of NGOs to develop women's living standards. By using the sustainable livelihood analysis framework, they studied 300 sample women entrepreneurs; this included those involved with livestock and poultry, fisheries, and vegetables entrepreneurship. They found that livestock and poultry entrepreneurship is significant and positively associated with financial capital, physical and social capital; vegetables entrepreneurship is significant and positively associated with natural capital and physical capital; fisheries entrepreneurship is positive and significantly associated with human capital. They noted that the role of NGOs micro credit and institutional support has a great impact on women entrepreneurs' standard of living. They also reported that the lack of resources, vulnerability, and poor institutional support are identified as constraints to long-term sustainability.

Rahman, M.A., Mustafa, M.G. and Barman, B.K. (2011). Impacts of aquaculture extension activities on female fish farmers in different areas of Bangladesh. *Bangladesh Journal of Zoology*, 39 (2), 213-221.

Q1: What extension methods and approaches are being used?

- The article highlights the usefulness of training to women fish farmers.

Q2: Which of these approaches are targeting women?

- The article is focused on women farmers.

Q3: What are the success factors?

- The article does not cover this aspect.

Q4: What are the constraints- social, cultural, economic, technical, environmental, infrastructural?

- The article does not cover this aspect.

The article assessed the impacts of training supports under aquaculture extension activities provided to female farmers involved in pond fish culture in comparison to the male farmers from different areas of Bangladesh. They found that there was an increase in fish production in the ponds of the trained female farmers in comparison to their baseline year (before trained) fish production in ponds. They also found that their fish production was lower than that of the male farmers who received the similar sort of supports. They concluded that there are different factors related to the low level of involvement of females in fish culture and the low level of fish production. They included their preoccupation in managing usual household works, having limited time to make regular contact with extension officers, low literacy levels, socio-cultural barriers, higher dependency on their male counterparts, their lesser ability to take decision, and their comparatively poor health conditions.

Qusumbing, A.R. and Pandolfelli, L. (2010). Promising Approaches to Address the Needs of Poor Female Farmers: Resources, Constraints, and Interventions. *World Development*, 38 (4), 581–592.

Q1: What extension methods and approaches are being used?

- The article discusses several methods/approaches:
- Farmer Field School (FFS)
- Female extension workers to reach women farmers
- Use of appropriate training materials that suit local contexts
- Use of existing social networks

Q2: Which of these approaches are targeting women?

- The article is totally focused on targeting women.

Q3: What are the success factors? The following are some suggestions for success, as suggested by the article:

- Continue strengthening of women's land rights and investing in schooling
- Promote divisible technologies or smaller input packages that are more affordable, as well as opportunities for groups to achieve economies of scale
- Adapt program design or service delivery to client needs
- Consider interactions among inputs rather than treating each input in isolation
- Take gender roles into account when designing and implementing projects

Q4: What are the constraints- social, cultural, economic, technical, environmental, infrastructural? The following are the challenges identified in the article:

- Lack of evaluation
- Lack of alternative design and delivery mechanism exploration
- Meeting women's diverse needs
- Sensitivity to culture and context

The article critically reviewed recent attempts to increase poor female farmers' access to, and control of, productive resources, focusing on Sub-Saharan Africa and South Asia. By surveying the literature from 1998 to 2008 they found that, compared to interventions designed to increase investment in human capital, only a minority of interventions or policy changes that increase female farmers' access to productive resources have been rigorously evaluated. They noted that future interventions need to pay

attention to the design of alternative delivery mechanisms, trade-offs between practical and strategic gender needs, and to the culture and context specificity of gender roles.

Makita, R. (2009). The visibility of women's work for poverty reduction: implications from non-crop agricultural income-generating programs in Bangladesh. *Agriculture Human Values*, 26, 379–390.

Q1: What extension methods and approaches are being used?

- The article explored a mechanism for making poor rural women's work visible by drawing on "cooperative conflict" theory.

Q2: Which of these approaches are targeting women?

- The article is totally focused on targeting women.

Q3: What are the success factors?

- The article does not cover this aspect.

Q4: What are the constraints- social, cultural, economic, technical, environmental, infrastructural?

- The article does not cover this aspect.

The article explored a mechanism for making poor rural women's work visible by drawing on Amartya Sen's intra-family "cooperative conflict" theory to explain the workings of two Bangladeshi NGO's income-generating programs (rearing poultry and rearing silkworms). The assumption was that cooperation surpasses conflict in the intra-family relations when women's work is visible. The results showed that cooperation in a family depends on how successfully the family can make women's income-generating activities successfully compatible with their existing household responsibilities, as well as with the continuation of the male breadwinner's income source. In women's continuing work, the level of cooperation depends greatly on the amount and frequency of women's income and the family's level of indebtedness.

Meisner, C.A., Sufian, A., Baksh, E., O'Donoghue, M.S., Razzaque, M.A. and Shaha, N.K. (2003). Whole Family Training and Adoption of Innovations in Wheat-Producing Households in Bangladesh. *Journal of Agriculture Education and Extension*, 9, (4), 165-175.

Q1: What extension methods and approaches are being used?

- The article discusses the whole family training approach.

Q2: Which of these approaches are targeting women?

- The article has particular focus on women farmers.

Q3: What are the success factors?

- The article does not cover this aspect

Q4: What are the constraints- social, cultural, economic, technical, environmental, infrastructural?

- The article does not cover this aspect.

The article found that the 'whole family training program' as a very useful way of extending agricultural knowledge. They used data from the joint initiatives between the Bangladesh Agriculture Research Institute's Wheat Research Centre (WRC) and the International Maize and Wheat Improvement Center (CIMMYT).

Riise, J.C., Permin, A. and Kryger, K.N. (2005). Strategies for developing family poultry production at village level – Experiences from West Africa and Asia. *World's Poultry Science Journal*, 61, 15-22.

Q1: What extension methods and approaches are being used?

- The article suggests employing a holistic approach with a combination of different tools. Considering the local technical and organizational aspects should develop this approach.

Q2: Which of these approaches are targeting women?

- The article is totally focused on targeting women.

Q3: What are the success factors?

- The article suggests that developing and implementing an approach, after understanding the local conditions, with a combination of different tools can ensure success.

Q4: What are the constraints- social, cultural, economic, technical, environmental, infrastructural?

- The article does not cover this aspect.

This article presents the efforts of a Network for Smallholder Poultry Development (NESPOD) in supporting family poultry development at the village level by focusing on women and the poor. In order to involve women, a combination of different tools were employed, including the sensitization of village groups, the organization of women into groups, training of village vaccinators, farmers' field schools for women, and the creation of linkages with national research and extension institutions. The article concluded that a holistic approach based on local technical and organizational aspects could be successful even in a short period of time.

ANNEX II

Key initiatives – BRAC:

- BRAC's programmers in Bangladesh include Agriculture & Food Security, Microfinance, Education, Health, Legal Empowerment, Environment, Gender Justice & Diversity, Social Communications & Advocacy, Social Enterprises, Socially Responsible Investment, Technical Assistance, and Community Empowerment.
- Food security and sustainable income: The cultivation practices of the northern region of Bangladesh are such that the landless agricultural laborers face slack seasons of employment from October-November; therefore, they have to face starvation during this period, which is known as monga. BRAC introduced a rice-potato-rice cropping rotation in place of the current rice-rice system practice; the rotation would be labor-intensive and ensure a high profitability for the farmer through high-yielding potato and rice crops while also generating income for the laborers (65-person-days per hectare of employment were generated through potato cultivation).
- Disseminating agriculture technology: 136,320 village organizations (VOs) go to the farmers (500,000 small and midsize farm families) to bring awareness of the best practices of farming with hybrid seeds and to put them into practice. (VO) team gets their learning resources from the 250 BRAC agricultural professionals. The 8,903 agricultural extension workers present in 64 districts of Bangladesh provide agriculture extension services and regular monitoring of overall agricultural development. The members of village organizations receive training, credit support, and technical assistance to boost up land productivity and farm income. Through this program, 85,672 commercial farmers brought 57,530 hectares of land under vegetable cultivation.
- Tenant farmers development program: According to the new norms and policies of the Bangladesh Bank, BRAC expanded agricultural credit to the tenant farmers who do not have access to traditional agricultural loans. For this, the Bangladesh Bank offered BRAC a refinancing facility of BDT 5 billion (about USD 75 million) at a 5% interest rate in order to provide loans to tenant farmers at a lower interest rate than BRAC's current microfinance program. Under the project, Borga Chashi Development, BRAC is organizing tenant farmers (men and women) into village organizations (VOs) (includes 30-40 women) and providing them with both credit and training on modern agriculture. As of March 2012, 4.45 billion BDT has been distributed to 284,000 farmers through 12,000 village organizations in 193 upazillas. There are 2 types of lending: microloans (Dabi) ranging from USD 100-1,000 given exclusively to individual women who are provided assistance by the village organizations, and microenterprise loans (Progoti) ranging from USD 1,000-10,000 given to both male and female entrepreneurs to support and help expand existing small enterprises that are too small to qualify for credit from mainstream banks.
 - Deposits 2011: 273.5 million USD; Number of depositors 2011: 6.8 million; Number of active borrowers 2011: 5.0 million. BRAC operates 18 financially and socially profitable enterprises, across health, agriculture, livestock, fisheries, education, green energy, printing, and retail sectors, making a significant contribution to the local economy through the creation of market linkages, entrepreneurs, and employment opportunities.
- Soil testing laboratory provides a fertilizer prescription with an affordable price for crops grown by local farmers; this results in an increase in land productivity in a sustainable and economically viable manner.

- For food security and adaptation to climatic situations: To mitigate the Cyclone Effects, BRAC introduced hybrid rice in the winter season in the coastal area using tidal river water. Apart from that, BRAC has implemented high-yielding varieties in traditional single-crop areas, which when compared to traditional practices showed an increase in productivity of nearly three times and profitability gains of nearly four times original levels. Crop introductions like maize, sunflower, and other vegetables in areas with limited non-saline water gave farmers large profitability.
- Seed production by BRAC is done with assistance from the Bangladesh Agricultural Development Corporation under the Ministry of Agriculture's CDP (SIPU) project. It is done on BRAC farms through contract growers (4,121). When there is a high demand, some additional seeds are imported from international sources. The production consisted of 530 MT of high-yielding rice, 1,160 MT of hybrid rice, 55 MT of vegetable seeds, and 5,532 MT of seed potato in the year 2009.
- BRAC facilitates poultry rearing as a source of income for landless and destitute women. This is due to its establishment in rural areas where low skill and capital levels were required. There existed potential for high returns on investment, and improved nutrition through eggs and meat consumption. It was a woman's activity that could be done alongside other tasks and was culturally acceptable, and women would be able to retain ownership and control of the production process and the arising outputs. Women are offered training to handle the work and then given the required material to start the poultry business; loans are recovered when the investment starts yielding. For every set of establishing 10-20 BRAC members to guide them, a poultry specialist would be at the service. BRAC distributes more than 9.3 million (2008) day-old chicks per month to these women, which represents more than 60% of the total day old chick (layer) production in the country.
- Concerning fisheries activities, especially in the pond-fish culture, female participants make up more than 90% of the total membership in BRAC and have borrowed BDT 723.4 million so far. There are 109,002 members (90% women) involved in fisheries programs. Around 138,090 participants have received training in pond-aquaculture. The total water area under pond aquaculture is 8,712 hectares and the total number of ponds is 105,492. Women dedicated only 10-15% of their total daily work time to culturing fish in ponds, which is considered a family-based activity.
- BRAC also operates the Poultry Feed Unit to fill the gap of feed supplies for the poultry rearing women of BRAC. Because a large number of microfinance loans are being used to buy livestock as VO borrow to invest in cows and require a sale point, BRAC provides for the dairy products by buying milk and selling it in high demand areas. BRAC Dairy (Aarong Milk) has 100 collection and chilling stations located in 25 districts, including ten located in ultra-poor areas. The enterprise collects 102,559 liters of milk daily and serves 40,000 farmers, 64% being women. BRAC Dairy has 23 distributors and 37 sales centers nationwide, covering 16,000 outlets out of 23,000 and enjoying an overall market share of 22% with a dedicated consumer base of around 500,000.
- A cold storage facility is provided to support farmers by allowing them to store their potatoes when not in demand. Chicken Enterprise was established, a broiler chicken processing plant, to meet the growing demand for dressed chicken in large metropolitan areas by purchasing chickens from their Poultry Rearing Farms, other commercial farms, and rural farmers, while also encouraging the BRAC poultry-rearing women. BRAC Chicken currently processes approximately 5,000 birds per day.
- BRAC Artificial Inseminators offer door-to-door artificial insemination services and educate/train farmers on housing, feeding, water management, disease prevention, cattle breed selection, and milking of livestock helping to educate and raise awareness amongst the local community.

- Sericulture enterprise engages the rural women in a range of activities including nursery, mulberry plantation, silkworm egg supply, silk worm rearing for silk thread, reeling, weaving, printing, and dyeing silk. BRAC Sericulture enterprise cultivated mulberry trees on 2,961 acres of land, engaged 7,500 women in rearing silk worms and 5,800 women in spinning; it produced 25 metric tons of raw silk in 2008.
- BRAC has other enterprises that support women and men, such as salt making, napkin making, hand-made paper, and printing.

Key initiatives –IDE - Bangladesh

- Rural marketing: Through the Farm Business Group Development, BRAC facilitates and improves the farmer coordination and decision-making to strengthen relationships between other market actors. Private Sector Engagement is done by establishing sustainable, multifaceted private sector linkages with farm business groups to provide inputs, extension and advisory services, and marketing channels, and Output Marketing supporting which is the improvement in producer coordination with the private sector in product aggregation through existing marketing channels or collection point establishment.
- Technology commercialization: By adopting low-cost agricultural technologies & knowledge of the supply chain, effective distribution and marketing system, and the improvement of their technical capabilities and business skills by farmers improves productivity and income.
- For resource conservation, it is vital for smallholder farmers to adopt low-cost micro-irrigation technologies (MITs) in order to save water and cultivate more with less water; through this they will achieve higher value production. IDE disseminated these affordable MITs to smallholders through private sector-led supply chains for the past 20 years. To date more than 1.5 million treadle pumps have been sold to farmers, enabling them to grow high-value crops, increasing their productivity, and supplementing their incomes.
- IIMS (Improving Irrigation Market Systems): 122 farmers reduced irrigation costs by 17% and are using 19% less water through the improved water conveyance systems. They earned an additional income of BDT 38,007.156; farmers reduced irrigation costs by 20% and are using 22% less water through the use of AWD technology. They now have an additional income of BDT 58,658.
- Conservation agriculture: Conservation agriculture is an approach adopted by IDE to conserve the environment. IDE has been working to promote conservation agriculture and enable the commercialization of minimum tillage machinery, such as the Versatile Multi-crop Planter (VCP), for a range of soils, crops, and cropping systems. This involves creating linkages between farmers, service providers, extension officers, NGOs, and machinery manufacturers to demonstrate market and distribute CA technologies and practices to smallholders through market-based supply channels. More than 60,000 farmers have adopted some level of conservation agriculture into their production in Bangladesh.
- ISEM (Integrating Smallholders into Expanding Markets): Over 80% of smallholder farmers are using improved variety and quality seeds, balance fertilizers, crop rotation, and inter-cropping systems throughout the year, resulting in increased productivity and additional income. There was a significant increase farmers' income. Because of this notable achievement, the stakeholders recommend that the project activity continue by at least another three years for the benefit of the target beneficiaries. 89% of smallholder farmers are accessing quality inputs in their locality and collecting information on proper use of agricultural inputs. Crop-based clusters are formed and linkages are built between seed dealers and fertilizer/pesticide companies and government agencies to provide high quality inputs and technical information.

- **IMPACT (Improving Markets and Poverty Alleviation through Cash Transfer):** 195 beneficiary households have increased their income from BDT 1,000 to 1,500 per month, increasing productivity and other agro-based businesses. Around 140 households (including both direct and indirect beneficiaries) are utilizing the new knowledge gained on primary processing and post-harvest handling of high-value spice crops, resulting in a significant earnings increase.
- **RIU (Enhancing the Impacts of Decentralized Seed Production):** Four fingerling selling points and traders' associations were created, enabling the fingerling market to become more vibrant at the local level. Total fingerling sale increased by 28%. The income of fingerling producers increased by an average of 38%.
- **PAMHills (Promotion of Agricultural Marketing in Hills):** Horticultural crop cultivation is encouraged to earn steady income throughout the year. PAMHills also planted demo crops to increase farmers' crop knowledge.
- **Market Systems (MS):** IDE brings together the private sector and consumers to sustainably deliver essential inputs, including technical know-how and market information to the bottom of the pyramid consumers. It also establishes effective market linkages between small-scale producers and output markets in which they can obtain competitive prices for their produce. This takes many forms from strengthening collection centers to organizing pre-season planning meetings; yet underlying all of their work is a focus on leveraging existing capabilities and relationships for sustainable outcomes. Primary linkage among farmers, government (including DAE, BADC, BARI), input sellers, buyers, and input supplying companies have been developed on quality inputs, improved production technologies, and selling produce at the right price in the output market.
- **RED (Rural Enterprise Development):** Farmers have now started shifting from subsistence to commercial farming, made possible by the 10-20% increase in overall yield that resulted from the higher productivity of high value crops. 601 individuals are directly benefitting from the eight collection centers, which have also created linkages between local companies, input sellers, and producers, adding value to their produce and increasing local farming competition. 630 farmers are directly receiving support from 14 input sellers and export companies. Farming methods, learnt during training sessions, are being implemented by the producers, which in turn has resulted in a 10% increase in yield. The introduction of micro-irrigation has been estimated to save nearly BDT 5,000 per acre off usual irrigation costs and improve the quality of produce.
- **CAARP-2 (Cyclone Affected Aquaculture Rehabilitation Project)** is helping 80% of farmers who now have knowledge of cultivation issues, a significant increase from the baseline of only 1%.
- Vegetable production from cropping has been very high for project beneficiaries. Data shows that each household produces an average of 335 kg of vegetables from 1.31 decimals of cultivated land each year. The average gross profit from this production per household was BDT 2,964. The total consumption of vegetables in households has increased from 67 kg (baseline) in 2008 to 91 kg in 2009; 63 kg came from the farmers' own production efforts. More than 3,000 treadle pumps were sold during the project time after the interventions.
- Other works, like sanitation and providing drinking water and helping the cyclone affected areas, are also among the works of IDE.

Key initiatives –Grameen Foundation

Grameen Foundation is a microfinance institution that mostly caters to the requirements of the poorest of the poor; apart from that, they also extend its services in the areas of agriculture and business. Grameen

Foundation provides microfinance institutions (MFIs) in poor communities with access to the capital they need to make microloans and to offer other financial services to those working to develop or expand a small business.

The categories of work that women take loans/microcredit from Grameen include rice/paddy trading, grocery shop, milk cow, cow fattening, bamboo works, paddy cultivation, paddy husking, land lease, farming, vegetables cultivation, cane works, vegetables trading, agriculture equipment-making, plantation, fish and cloth trading, bullock raising, pisciculture, pottery products, betel leaf cultivation, poultry cultivation, and land cultivation.

Through Grameen Byabosa Bikash (GBB), the foundation provides loans to many poor entrepreneurs (farmers/producers) in the rural area to expand their business ventures by reaching the right market with their products, e.g., vegetables, livestock, handicrafts, etc. Through practical experience in the field of microcredit, Grameen Bank realized that some supplementary services are needed side-by-side with microcredit to ensure sustainable development of poor people who have the potential to carry out small businesses/enterprises in a profitable manner.

Grameen Shakti's solar energy system, biogas, and organic fertilizer programs are being promoted mostly in the rural areas. For the programs, engineers trained women technicians and provided them with employment, managed a scholarship program for school children, and collected damaged batteries to ensure they do not harm the environment.

Grameen Communications provides IT solutions and support services to a wide range of users, developing rapid solutions and flexible training programs for new customers, customizes systems to user needs, provides continuous support services to the field staff to implement systems successfully, and serves high-end customers in successfully completing their projects.

Grameen Telecom promotes the development of telecommunication services in rural areas of the country; they aim to reducing poverty by creating new income generation opportunities through self-employment with access to modern information and communication-based technologies. The basic functional structure of Village Phone provides training, SIM distribution, strategic planning, and required technical services through Grameen Telecom Unit Offices. Grameenphone provides technical, network coverage support & regulatory compliance, Tax, and VAT to the government Exchequer. The Village Phone operator performs business by charging a mark-up on top of the airtime tariff.

Key activities – COAST

COAST emerged as an NGO from a ten-year-old project of an international NGO in the beginning of 1998. COAST organizes strategically important activities related to development, which in turn will facilitate the sustainable and equitable improvement of life, especially for women, children and the disadvantaged population of the coastal areas in Bangladesh, through their increased participation in the socio-economic, cultural and civic life of the country. COAST executes its programs and projects under two core divisions: 1) Economic Justice and 2) Social Justice. EJ is focused on microfinance with integration of a rights-based approach, primary health care and nutrition, coastal-integrated technology extension programs, and community-based disaster management.

The good governance programs in COAST have four components: 1) social mobilization to mediate legitimate demand of the poor, 2) facilitation of access to the local government, 3) democracy institutionalization, and 4) advocacy for policy and behavioral changes (i.e., to minimize gaps between policy declaration and policy implementation, especially within the state agencies).

COAST has also set up two technology extension centers known as CITEP (Coastal Integrated Technology Extension Center). From these centers, beneficiaries are receiving training and the introduction of local

technologies for their agriculture. Apart from these technologies, the organization has introduced some other technologies, such as sex pheromone, the Maria model, vermiculture, goat rearing in planking system, leaf color chart, etc. COAST's CITEP (Coastal Integrated Technology Extension Program) aims to provide nutritional intake to pregnant mothers and children of poor families, and to promote commercially viable income-generating activities in integrated agriculture while preventing ecological endangerment; they also endeavor to promote and preserve local species and plants, and especially to protect the farmers from patent rights and the seed business. COAST has linked to different national and international networks for these campaign and advocacy efforts. The organization has deployed 28 technical professionals to its working areas. CITEP includes cow rearing, dairy farming, beef fattening, homestead gardening, a goat keeper (Black Bengal), a buck station, a duck & poultry keeper, a model breeder (for producing fertile eggs), a mini hatchery (rice husk method), an AI (artificial insemination) poultry worker, and a fish cultivator.

More than seven million households have already been brought into micro-finance across the country. COAST has introduced a soft repayment schedule in some cases for the time being; for example, one may receive grace in repaying his/her installment for several weeks for unavoidable circumstances if the group agrees to it. In the bi-monthly Program Management Meeting (PMM), representatives of the People's Organizations (PO) take part actively at different levels of organization in the discussion and sharing on the program as well as on management-related issues. Attending such meetings enables them to participate in the organizational decision-making process. COAST has a gender-sensitive approach in microfinance. Pregnant mothers get a special repose on repayment for three months, and they can also withdraw their savings during pregnancy.

At present (Nov. 2001), under the three projects, COAST's group members total 24,910 within 1,074 groups. Members' savings total Tk 31,251,167, and the repayment rate is 93%. The amount of outstanding is Tk. 72,023,617, and cumulative disbursement is Tk. 337,572,900. In 2001, member dropout cases have decreased in comparison to the previous year. However, reasons behind the drop-out include migration, the inability to give installments, the reluctance of the husband, far distances, sickness, deaths, dishonor to *shomiti* rules, family problems, among others.

Communication for Development: Promoting sustainable behavior and social change in convergence districts (C4D): Major outcomes of this project are to promote behavior, social, and policy change through meaningful community participation and dialogue between service providers and communities. The project has informed the following: i) leaflet and related pictures have been treated as useful materials for preservation and dissemination of knowledge in greater aspects, ii) there remains belief and confidence on corporal punishment in the societies, iii) both active support from teachers and SMC engagement are mandatory for the success of any school-based program, iv) messages of *rickshaw* painting were not accessible for illiterate people and messages were not clear and understandable to all. C4D has covered 45,954 people as direct beneficiaries and 344,655 people as indirect beneficiaries.

The South-East Coastal Development Initiative aims to encourage, through teaching and assisting to increase the economic level of poor people in society by enabling them to improve their standard of livelihood to become able to support their families without continued dependence from external sources. Strengthening Local Governance for Pro-Poor Service Delivery and the outcomes of this projects are to improve social security, to increase the representation of poor and vulnerable people, to increase income (though income generating activities in different trades like fish culture, bio fertilizer production, mason/tube/well mechanic and sanitary materials production, biogas plant/solar installation, cycle, *rickshaw*, motorcycle, water pump, and tractor, as well as access to resources and increased access to services.

The Reaching Out-of-School Children Project (ROSC), which supports children who dropped out of primary level, are receiving education through this project and re-entering mainstream education. COAST 's major roles are to build capacity of schoolteachers through conducting foundational training, refresher training, cluster training, follow-up, and through providing technical support to the school management. The Promoting Civil Society Participation Project in BCCSAP (Bangladesh Climate Changes Strategic Action Plan) aims to create awareness about climate change causes, effects, and to create an action plan among the civil society leaders. The Coastal Renewable Energy Project's purpose is to supply solar electricity out of grid coverage in order to increase working hours of the clients. Equity and Justice Working Group (EquityBD) aims to promote policy debate and practice changes in linking micro- and macro-level mobilization. In 2010-11 year, EquityBD promoted concern and critical mass on climate finance management, tax-and-own resource mobilization, CSO and media capacity on climate finance monitoring, pre- and post-Durban CSO concern on climate negotiation, and the climate migrant's rights campaign.

PO's activities are being implemented by the microfinance staff at the field level, all the committees have been reshuffled by arranging fair election, monthly and quarterly meeting of POs have been regularized, and a fund named 'Legal Endowment Fund' has been created with the contribution of PO. PO is able to assist acid victims, rape, and minority oppression.

Key activities – Shushilan

This organization came into being in the face of degradation of socio-ecological resource degradation within the southwest coastal region; their specific mission was to redress the declining natural resource base, livelihoods, and food security of the people. Concerning Shushilan's development initiatives, another major concern is to uphold human rights and gender equity for the socially disadvantaged community, focusing on women. Shushilan is a local agro-ecology and rights-based NGO working in the southwest coastal region to ensure livelihood security of the resource-poor community through promoting a sustainable agricultural farming system and environmental health. Wetland resource management focusing on aquaculture is one of the principal components of Shushilan's development initiatives in the region.

Shushilan's development interventions

1. Socio-economic development of the underprivileged poor

- **Group savings & Microcredit:** Microcredit is a handy tool used to include the excluded people in economic activities. Shushilan emphasizes the participation of community people in the development and entrepreneurship process, but the problem lies in capital formation. Shushilan has five types of credit programs to cover different levels of community people: loan for poor, general loan, seasonal loan, micro entrepreneurship loan, and small business loan. The loan amount ranges from tk. 1,000 to tk. 30,000 for individuals. For business loans the amounts are extendable with conditions. Shushilan works in ten unions covering 89 villages under Kaliganj upazilla and 8 unions covering 56 villages under Shyamnagar upazilla of Satkhira district. All of the activities are managed through five centers and 15 bazaars. From July 1, 2010 to June 30, 2011, tk. 44,542,000 was distributed as microcredit among 4,360 beneficiaries (3,732 females and 628 males). The loan return amount equaled tk. 37,630,522, and the loan outstanding is now tk. 29,797,418. Shushilan has received tk. 4,536,502 as a service charge during this period.
- **Small-scale Rural Enterprise Development:** Under this program, Shushilan focuses on promoting small-scale rural enterprise development, in which respective trainings are provided along with microcredit supports. Shushilan initiated this intervention by giving assistance on poultry farming. In 2009-10 Shushilan provided support to 600 families in the areas of grocery shops, fish/shrimp

traders, crab traders, vegetable traders, hawker for beetle-nut, oil traders/hawker, ice cream traders, rice traders, small traders/ferriwala (molasses, lime, poultry, metal, stationeries, cloth), and sweet shops.

- **Market Linkage Development:** Market linkages are developed to ensure the proper price for the products of the poor people. This intervention inspires people to produce more types of goods, all contributing towards improved labor utilization, as well as community self-reliance.
- **Economic Development of the Population of Poor Women:** The main target beneficiaries of the project are the poor women, e.g., widowed and divorced, who do not even come under the coverage of microcredit programs; this includes the bottom 10% of poor people. The project has formed women's crew groups (WCG), the members get wages for their works under the project. 2,394 poor women are now working in Barguna under this project. The workers are also receiving training on leadership development, group formation, women rights, and health care. They receive a part of their wages in cash for daily livelihood and the rest, which they receive after the completion of the project, is deposited into their bank account. This process will accumulate capital for them, and after the project is over the WCG members may start business with the accumulated capital. This type of initiative can play a very important role in economic development of the poor.
- **Agro-based Business Promotion:** The economy of Bangladesh is dominated by the agricultural sector and most of the people in Bangladesh depend on agriculture for their livelihoods. Shushilan provides support to the poor, especially the ultra-poor and women, for agro-based business promotion. The newly introduced people's organization for farmers named "Shusomoy" at the village, ward, and union levels are promising to play vital roles in agro-based business promotion.

2. Education and Health & Nutrition:

Shushilan has undertaken various qualitative education initiatives and holds that holistic approaches for addressing health and nutrition are essential. Shushilan, with its limited resources, is trying to address the total development of health and nutrition through different programs. With regard to education, Shushilan is continuing two main types of education, Non-Formal Primary Education and Functional Education, to address the basic needs of the poor community.

3. Human Rights & Good Governance:

Shushilan focuses on human rights and good governance through its different programs while reinforcing basic rights, economic, social, and cultural development to achieve self-reliance, sustainable development, and social justice. Shushilan has undertaken community-level organizations like Shovoshakti, a group of adolescents, volunteers, school- and college-aged students, and Sadhikar, women's group, actively participate in the human rights and good governance process. These community organizations are gradually undertaking leadership and developing their own capacity for addressing the issues of human rights and good governance, in collaboration with Upazilla, district-level authority, and other actors.

Strengthening Democratic Institutions: 'Partnership between people and local elected bodies for ensuring public services for the poor and enhancing accountability of Union Parishad' works with the development objective of - a pro-poor, democratic, accountable and transparent union parishad where people can participate as responsive citizens. All these people's organizations come out to lead the community people to secure their human rights and at the same time bargains with the local government to ensure good governance.

4. Sustainable Environmental Resources Management:

To ensure food and livelihood security of the resource poor coastal community. Its objective is to conserve natural resource base through environment friendly agriculture and land-use practice.

- Soil resource: To ensure soil health, Shushilan initiated organic farming, preparing and using compost, and using organic pesticides. Along with these Shushilan promotes vegetable and homestead gardening. Women receive vegetable seeds as well as training on preparing compost from kitchen-waste and homestead garden technology. More than 2,000 households are now involved in homestead gardening with the initiative of Shushilan and focus is on improving livelihood of the marginal farmers of the South-West coastal region and the enhancing production of saline tolerant rice by bringing thousand acres of land under cultivation.
- Wetland Resource: Shushilan has established an eco-demonstration farm that promotes environmentally sound wetland resource management good practices through mangrove nursery, aquaculture, saline tolerant rice and vegetable production. Resource poor people learn saline agriculture and aquaculture through demonstration at the farm.

5. Sustainable Peoples Organization:

Shushilan works with the most underprivileged communities that have no access to the decision-making process. The resource-poor and disadvantaged women need an alternative institution of their own to use as a bargaining platform and instrument of socio-economic and political empowerment. Increasing people's self-initiative and ensuring people's participation in development are essential preconditions for good governance and sustainable development. With this aim in view, Shushilan has envisaged 'Swaudyag' as an organized platform for people's self-development as development partners. Swaudyag's development cell aims at ensuring people's voluntary participation in planning and implementation of local development initiatives.

6. An ICT-Based Community Plant Clinic for Climate-Resilient Agricultural Practices:

Shushilan has developed an ICT-based plant clinic in the sub-district of Kaligonj of Satkhira district. Local agricultural extension workers (plant doctors) employed by Shushilan use ICTs in order to assist farmers, providing the farmers with the information they require. ICTs can also be used to share experiences between farmers through mobile phone communication and text messages. The early warning generated by Bangladesh Meteorology Department (BMD) on floods and cyclones are disseminated through electronic and print media and the Internet. The plant doctors and other stakeholders receive the information from these sources and disseminate to respective farmers through cell phone.

7. Mass Awareness Program:

Shushilan promotes capacity building through mass awareness programs, exposure visits to projects, and cultural activities such as the picture drama team, which gave over 100 performances in 2010 on different development and livelihood related issues. The mass awareness programs also include a cultural program, rally, day observation, workshops, seminars, dialogues, hoardings, and publishing of posters, leaflets, booklets, magazines, and stickers.

8. Voiceless Rustic Women Migration in City and Town of Bangladesh:

Female migration is increasing and diversifying because of the livelihood and social insecurity of the rural areas. To counter it, the organization is developing rural areas in terms of decentralization of labor-

intensive industries for women, wage increments, women's social and human skills development, and linkages with a public safety net, among others.

9. Occupational skill development training:

Shushilan conducts occupational skill development training in different sectors for partners, members of people's organizations, beneficiaries of different project representatives, government officials, caretakers, and others. They work in rice cultivation, vegetable cultivation, compost fertilizers, soil management, crab culture, livestock, small business, integrated agriculture management, poultry, food and nutrition, and fisheries.

Shushilan's impacts include the following: improvement in average incomes and managing livelihoods (as evidenced by shelter, meals for the family, and children enrolled in school). As part of their broader development, Shushilan is sharing the experience with other organizations and moving towards developing a sustainable model for "Socioeconomic development of the underprivileged poor" with the participation of all.