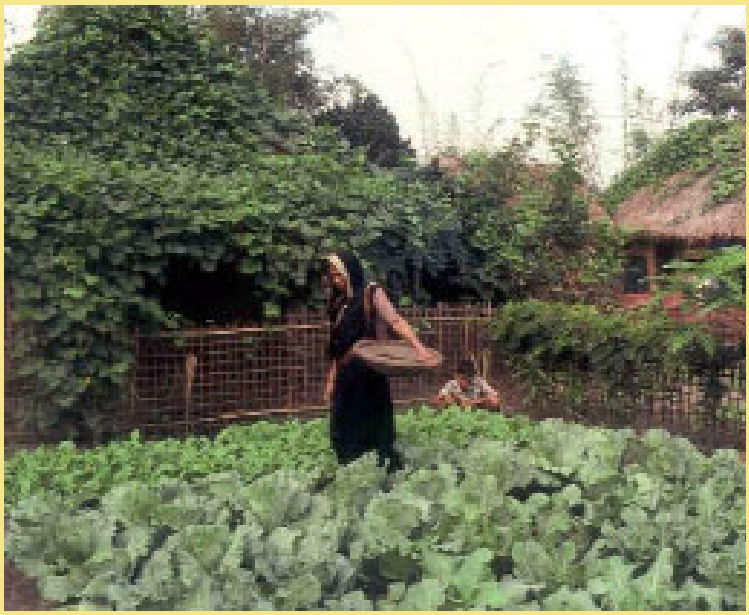

A Journey from

Advanced Farmer-to-Farmer Training

to Farmer-centred Training

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ACRONYMS, ABBREVIATIONS AND GLOSSARY

AP	Associate Participant
ANR	Natural Resource Department
DAE	Department of Agricultural Extension
DLS	Department of Livestock
DOF	Department of Fisheries
ELC	Experiential Learning Cycle
FAO	UN Food & Agriculture Organisation
FFD	Farmers' Field Day
FFS	Farmer Field School
FMA	Field Management Analysis
IPM	Integrated Pest Management
LE	Local Extensionist/Local Entrepreneur
LIFT	Local Initiative for Farmers' Training
NGO	Non-Government Organisation
PNGO	Partner Non-Government Organisation
PP	Primary Participant
RF	Resource Farmer
SDC	Swiss Agency for Development & Cooperation
SHABGE	Strengthening Household Access Bari Gardening Extension (managed by CARE)
SLT	Season Long Training
TNA	Training Needs Assessment

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Summary

The Strengthening Household Access to Bari Gardening Extension project's (SHAGBE, July 1999 - December 2003) main objective was to build the capacities of poor female farmers by increasing their homestead productivity through improved agroforestry practices. It was preceded by two projects: the Local Initiative for Farmers' Training (LIFT, July 1993 - June 1998), and the follow-up, LIFT Bridging Phase (July 1998 - June 1999).

Central to LIFT's approach was farmer-to-farmer extension: experienced farmers (Local Extensionists (LEs)) trained other farmers and developed their own seed/seedling/tree sapling production skills. In the following phase, designed as a test-run for SHAGBE, changes were made. Training was to be carried out by project staff not LEs, whose training approach was found to be ineffective because of poor skills and the social barriers faced. Other changes included using local NGOs to implement project activities and the LEs becoming 'Local Entrepreneurs', with the sole job of producing seeds/seedlings/tree saplings.

However, new training methods, such as demonstration plots and question and answer sessions, were not successful because staff lacked the necessary technical knowledge and experience. A key focus of SHAGBE was therefore to address these problems and particularly to improve the training to make it more farmer-centred.

SHAGBE adapted the Farmer Field School (FFS) approach, which focuses on helping farmers accumulate a multi-disciplinary knowledge base, develop problem-solving and analytical skills, and create self-directed learning skills. Staff learned about different technologies and vegetables, and about how to organise and conduct training sessions, with special focus on running participatory sessions. There was training on social and gender issues too.

SHAGBE aimed to make the training programme more responsive to farmers' needs. Training Needs Assessment was carried out and farmers were encouraged to bring examples of the problems they faced to training sessions to encourage innovation. Study plots were a key part of this and they also helped the farmers learn about Field Management Analysis. Farmers asked for training in household livelihood issues and SHAGBE changed its training to accommodate this need.

SHAGBE disseminated learning with a number of strategies: a 'buddy system' for FFS where participants shared their knowledge with others; "SHAGBE Week" to raise awareness in the villages; 'Farmers' Field Days', or agricultural fairs; and the publication of technical manuals, calendars with "message of the month", and flipcharts.

Over time SHAGBE's approach has evolved to become much more farmer-centred by building on the experience of previous projects.

1. Introduction

In July 1993 the Agriculture and Natural Resources department (ANR) of CARE Bangladesh launched a five-year project called Local Initiative for Farmers' Training (LIFT) in Nilphamari, financed by the Swiss Agency for Development and Cooperation (SDC). In order to promote bio-intensive gardening, LIFT used local farmers as extension agents, or Local Extensionists (LEs). In addition to training farmers on home gardening, the LEs were also involved in producing vegetable seeds and seedlings. The hypothesis was that the farmers would demand greater quantities of quality seed and seedlings after receiving training from the LEs. The seed and seedlings would then be purchased from the LEs.

In July 1998 CARE Bangladesh followed LIFT Nilphamari with a new project, LIFT Bridging Phase, funded for a year by SDC. As the Farmer-to-Farmer training was found ineffective, the project used trained staff as extensionists. The project also involved local level NGOs in implementing project activities in order to cover a larger geographic area and simultaneously to enhance the NGOs' capacities.

After the successful completion of the LIFT Bridging Phase, the SDC-funded Strengthening Household Access to Bari Gardening Extension project (SHABGE) was launched in Nilphamari and Rajshahi for the period July 1999 to June 2002. The main objective of the project was to build the capacities of about 10,000 poor female farmers, increasing their homestead productivity through improved horticulture and agroforestry practices. This was to be done using the Farmer Field School (FFS) approach to capacity building. The project was extended by one and a half years mainly to complete the FFS cycle and to support the FFSs evolving into farmer organisations.

The project targeted poor women and selected homesteads as the main area for intervention. It identified poor participants using well-being analyses conducted with the community. During these sessions participants categorised people according to their income, size of land holding, assets and rice provision ability. Local resources in the villages that could be used to increase production and income were also identified. Finally, field staff selected participants for the FFSs with assistance from members of the community.

The project moved from a Farmer-To-Farmer training approach to a Farmer-Centred approach on the basis of the previous LIFT and LIFT Bridging phases. This method proved to be more effective.

2. Initial Phase (LIFT Nilphamari): Limitations and successes of farmer-to-farmer training

During the LIFT Nilphamari period (July 1993 to June 1998), farmers were trained by experienced farmers (LEs). Their objective was to enhance nutrition levels and economic well-being amongst small farmers and landless households by introducing

homestead agroforestry interventions. The LEs were primarily selected according to the following criteria:

- Their potential to be an agricultural trainer (having better skills and knowledge than other farmers);
- Their willingness to travel to several villages in order to carry out training;
- Their ability to produce and market vegetables, vegetable seeds/seedlings and tree saplings.

CARE Bangladesh directly implemented this project.

Mrs. Motahera Begum, *from Khalisha Khutamara village, was selected as Local Extensionist in 1993.*

"After selecting me, the project provided me with five days residential training at Jaldhaka upazilla headquarters. Practical training on different horticultural practices improved my knowledge and skills in producing vegetables in my homestead. After returning from the training I started developing my vegetable garden. Someone from CARE visited my house several times a month to provide me with technical support and within several weeks my vegetable production and consumption increased remarkably. The additional income earned from vegetable sales encouraged my husband to support me in their vegetable.

"After receiving around nine months of formal and informal training, I started selecting the first batch of about 20 farmers for new training. I was astonished to see that farmers, who had highly appreciated my achievement, refused to become my students. They did not have confidence in my teaching ability. Some of them were also jealous because by enrolling them as my student I could earn money from the project. Thus I started searching for relatives and farmers at distant places. This was difficult for me, since I had to visit and train my students on a regular basis.

"During the formal training of my group of farmers, I used to be disappointed at my own performance. I had extreme difficulties in conducting the two to three hour training sessions all by myself. So, I would always ask the CARE staff to run the sessions. I was more comfortable in showing different techniques but felt less equipped in explaining the science behind the techniques.

"I observed that the farmers preferred to learn from the CARE staff. Another problem I observed was that the limited number of sessions (three or four a year) with pre-selected topics was not enough to resolve the farmers' vegetable and fruit production problems."

Mrs. Motahera Begum: Successful as a local entrepreneur but not as a local extensionist

"Those who had recognised my achievement, refused to become my students."

During the first year LEs underwent a series of intensive training sessions in order to build their training skills. This started after selection with a period of three to five days of residential technical training on bio-intensive gardening techniques such as compost and raised bed preparation, seed extraction and preservation, seedling production, preparation of green manure, liquid fertilizer and homemade pesticides. Three training methods were used: demonstrations, practicals and discussion. The residential technical training concluded with the preparation of individual action plans. For the next nine months project staff regularly visited the LEs up to two to four times a month depending on their needs. These visits provided on-the-job training in the LEs' gardens and helped them to put their knowledge into practice, thereby enhancing their confidence and enabling them to train other farmers better. In addition, the project staff held monthly one-day training events for small groups of 15 to 20 LEs in one LE's vegetable garden. At the end of the first year, the LEs had a three-day training session on extension and teaching.

The LEs were also trained in the production of vegetable seeds and seedlings and tree saplings. This was done with the assumption that the farmers' demand for quality seeds and seedlings would increase after they had been trained. It was also assumed that the LEs' nurseries could meet this demand.

At the end of the first year the LEs selected 20-25 neighbouring male and female farmers (about 40% female and 60% male) to train in bio-intensive gardening and horticultural practices. The LEs were paid Tk. (Taka) 400 per month (about US$ 10).

The LEs visited farmers and trained them in their own gardens for a year. Discussions, practical demonstrations and exchange visits to innovative farmers were used by the LEs as part of the training. Having seen the LEs' productive gardens the farmers were motivated to improve their own vegetable gardens. The local dialect spoken by the LEs eased communication between them.

In addition to the LEs' training the farmers received formal training from the project staff about three or four times a year. The project staff selected the topics for this training according to the project's priorities: the needs of farmers and agricultural seasons.

The findings of the project were as follows:

- One year was insufficient for improving the LEs' training skills. Poor training adversely affected neighbouring farmers and prevented them from learning from the LEs.
- As LEs were mainly selected from amongst the poor class and 60% of the LEs were women, the farmers were not interested in learning from them.
- The farmers resented the fact that the LEs were paid and subsequently were less likely to learn from them because of their negative feelings towards the poor class.
- As a consequence LEs tended to seek out farmers in remote places hoping to avoid such feelings of resentment. This particularly caused the female LEs difficulties as they had to make regular visits to those places.
- There was a lack of interest amongst the female farmers in participating in the formal training sessions conducted by project staff three to four times a year because of the long distances to travel.

- The LEs were better at demonstrating the practical part of the training than explaining the science and rationale behind the technology.
- The limited number of formal training sessions (only three or four times a year) meant less scope for training farmers in many important problems related to homestead production.
- Formal training sessions, conducted mainly on pre-selected topics, did not always match the farmers' requirements and therefore often made them lose interest in the sessions.
- The male farmers dominated training discussions and marginalised the female farmers. Most of the female farmers were shy and felt intimidated in the presence of male farmers.
- Many of the very poor female farmers were disinclined to attend the training sessions wearing old and worn out saris. If they did come, they were reluctant to participate in the training as they were maintaining purdah (veil). Mothers faced the practical difficulties of breast-feeding their children in front of men; as a result they lacked interest in the sessions.

Although Farmer-to-Farmer training is a modern concept in training and extension, some of the limitations mentioned above adversely affected its success in the project. As a result of these experiences, the project staff became the main trainers of the farmers.

3. Second Phase (LIFT Bridging): Successes and failures of the training approach

As the Farmer-to-Farmer training was found ineffective there was a change of approach in the follow up project, the one-year LIFT Bridging Phase. This phase was initiated to test-run delivery of the extension mainly through project staff, instead of the farmers as LEs, and through local NGOs, instead of CARE's Direct Delivery.

The findings were used to design the follow-up project, SHABGE. During this period the project was expanded into the Rajshahi region with only the task of the establishment of Local Entrepreneurs (LEs - this acronym refers to Local Entrepreneurs from here in the text). In the Rajshahi region the project selected and developed some interested farmers as LEs to produce and sell vegetable seeds, seedlings and tree saplings. Its aim was to stop using the farmers as extensionists and to promote them instead as commercial producers of seeds and vegetable and fruit seedlings. Capacity building of both LEs and farmers continued in the Nilphamari area.

SHABGE made the following major changes in the implementation strategy:

- The project stopped using the farmers as extensionists. Instead it used project staff to teach farmers.
- As the Local Extensionists had difficulty in carrying out

both their extension and seed/seedling business, the project supported them in becoming LEs to produce vegetable seeds/seedlings and tree saplings in order to meet local demand.
- The project initiated extension work through local NGOs in addition to CARE's Direct Delivery.

At the beginning of the phase, field staff collected basic information about unions and villages feasible for homestead gardening from the Department of Agriculture Extension (DAE), Union Parishad, LEs, and NGOs. Based on this information the field staff conducted a transect walk in the villages; this gave staff a 'feel' for them and helped them to select suitable villages in subsequent discussions. The field staff then organised community meetings at selected villages. The preliminary lists of farmers were produced with the support of the community. Finally, the field staff organised groups of 20-25 male and female farmers according to their willingness to participate and the availability of homestead land (which had to be physically verified). The project continued to follow some training strategies and methodologies already implemented during the previous phase:

- The demonstration plot as a training method, in addition to the lectures.
- Participatory learning events through question and answer method, in order to stimulate the farmers' thinking process. Staffs facilitating the training sessions were directed to ask appropriate questions and to avoid providing prompted solutions to the farmers.

Introduction of demonstration as a training method: developing towards a practical method of training

The practical training sessions were conducted in a demonstration plot that was agreed on with the support of a volunteer farmer. Some of the new recruited staff had little experience in providing practical training in a demonstration plot and were more comfortable in lecturing. They spent most of the training time sat under a tree, giving a lecture based on the training calendar! Towards the end of the session the staff invited the farmers to see the demonstration plot. However, many farmers declined the invitation, most probably discouraged by the attitude of the staff.

Providing only one day's training a month did not help the farmers understand the critical stages of plant growth, plant diseases or pest management processes. To meet the project target, one staff member had to train and support 12 to 15 groups of farmers and 12 to 15 LEs; this was considerably stressful. The trainer could not conduct more than one training session a month or provide adequate follow-up support to the farmers. This was further complicated as many of the PNGO staff were new and faced difficulties in explaining the science behind the techniques and technologies covered.

Question and answer method: a means of stimulating farmers in their learning process

The project encouraged staff to ensure greater participation by the farmers in the training sessions through the use of appropriate questioning and the avoidance of supplying prompted answers for them. The main theme of the discussions was to find solutions to the farmers' problems based on local experiences and knowledge. However, because of a lack of experience, many staff could not conduct the sessions properly. They would ask

innumerable questions, even if it became apparent at some point in the discussion that none of the farmers had any knowledge of the topic. For example, during a discussion on the importance of using compost in soil, the staff asked the farmers about the importance of microbes and what they did, a subject the farmers knew little about. Although staff with good questioning skills could stimulate farmers' thinking processes, inappropriate use of this method discouraged many farmers from participating in this session.

Whilst there had been many positive changes to improve the training, in particular to make it more farmer driven, there were still some limitations, as discussed above. To overcome these problems, SHABGE adapted a Farmer Field School approach, as developed mainly for rice Integrated Pest Management (IPM) by the UN Food and Agriculture Organisation (FAO) Inter-Country Program in Asia.

4. SHABGE Phase: Concept of the Farmer Field School (FFS)

The Farmer Field School (FFS) is an application of a problem-based learning approach for agriculture extension. SHABGE adapted and introduced it as a method for training farmers on homestead agroforestry, based on the lessons learnt from CARE's NOPEST project for rice farmers. FFS helps farmers accumulate a multi-disciplinary knowledge base, develop problem-solving and analytical skills on homestead resource management, create self-directed learning skills and generate motivation and enjoyment in learning. In addition, FFS activities include a learning game on team building (to instil in farmers the importance of unity), and the development of skills to improve the use of homestead space.

Farmers were encouraged to take a greater role in selecting topics, growing crops in study plots, timing the sessions, helping the evolution of the organisation, and linking with service providers. This participation is dependent on the quality of training and process facilitation delivered by the staff. Since this had been at issue during the LIFT Bridging phase, the SHABGE project has put greater emphasis on developing staff's training and facilitation skills on technical as well as leadership matters.

Two key initiatives were introduced to make the training effective for the farmers in the SHABGE phase. The first was to develop staff's technical knowledge and skills on agroforestry through a three month practical training programme designed to enable them to teach the complete cycle of vegetable production, from the seed sowing to seed production stages. The second initiative was to improve the training approach in order to make it farmer driven.

4.1 SHABGE Phase: Enabling staff to manage FFSs

Because the FFS approach was new, the project placed great emphasis on training its staff at the beginning of the project. The project introduced initiatives such as 'dummy session facilitation', which covered the major problems of homestead agroforestry. Staff had to take a monthly knowledge test designed to develop their competency at addressing the farmers' problems.

Season Long Training: not only a means to develop training skills, but also to build seasoned staff

Experiential Learning Cycle: not only a means of involving farmers in actions but also a way of helping trainers conduct training smoothly

ELC stands for Experiential Learning Cycle. This is part of adult learning theory. The ELC theory of education says, "Students, particularly adults, have many experiences and possess considerable knowledge, which should be respected and built upon". The ELC training method encourages the full involvement of learners in the entire process of learning, using learners' knowledge and experiences. In ELC, the process is often more important than the results.

The project introduced three month Season Long Training (SLT) to develop the training skills of staff. This training was mostly hands-on, providing experiential learning on vegetable cultivation. Staff were practically involved in growing different vegetables, conducting trials and learning different technologies such as compost preparation, soil preparation, seed/seedling sowing, management of disease and pests, and seed production and preservation. In addition to technical topics, staff were taught the process of organising and conducting training sessions in the FFSs. Staff were trained on different social and gender issues such as the role of men and women in family and society, and the gender division of labour. It was observed that the hands-on technical issues training, and the learning environment it created, built staff's confidence in dealing with the FFSs. It was also noted that the staff who had received SLT required less support in running FFSs. Although SLT required a large investment in terms of money and time, it was learnt that this training was important in order to be able to deliver quality services. The staff who had received SLT, as compared to those who had not, had more dynamic FFSs. Another observation was that there was a higher turnover of SLT staff compared to non-SLT staff in the highly competitive job market.

The project training approach was also strengthened by the introduction of the Experiential Learning Cycle (ELC) that helps staff conduct training sessions smoothly and systematically and ensures the full participation of the farmers. ELC helps staff by providing a series of steps to be worked through. First staff must follow up any practical activity or case study analysis training with a question and answer session with the trainees. Second, staff assist trainees to summarise any lessons learnt that arise from these discussions. Third, staff assist the trainees generalise the learning, i.e. relate the learning to other similar problems or topics. The fourth step is to assist the trainees prepare a realistic plan using the new learning.

The introduction of ELC in the training methodology has increased the adoption of new knowledge by the participants; this is because the training sessions encouraged farmers to develop and implement practical plans to improve homestead production. Farmers' participation in the learning process was also observed to have increased.

4.2 SHABGE Phase: A tool for farmers' training

The second key initiative was to improve the training programme. The training agenda was developed through the introduction of: Training Needs Assessment (TNA); fortnightly training sessions on planned topics (more frequent than in the previous phase); practical training on growing vegetables in study plots; conducting Field Management Analysis (FMA) on study crops; providing a message of the month; and arranging games to strengthen group unity.

Training Needs Assessment (TNA): a basis for developing a training plan

The first and most important step was the development of a training calendar. At the beginning of the season TNA was carried out: participants identified vegetable and fruit production problems in large group discussions and then made a seasonal training plan with the problems prioritised. Although staff set the training agenda in consultation with the farmers, it was not possible to include all the proposed topics in the calendar because of the limited number of sessions. Due to staff rigidity in following the planned calendar, the following problems later arose:

- Sometimes the farmers could not apply the new learning in their gardens as the relevant session was conducted after the occurrence of the problem.
- Sometimes live specimens of diseases and pests could not be demonstrated to the farmers as the training session was organised before or after the occurrence of the problem.
- Staff were unwilling to address problems as farmers faced them since they possessed insufficient technical knowledge or skill. Because the training calendar was prepared in advance it could not anticipate all the probable seasonal problems faced by the farmers. As a result the farmers lost interest in the training sessions.

Training on current problematic topics: development towards a Farmers' Centred Approach

On learning that farmers were more interested in being taught solutions to their current agroforestry problems, the project adjusted its training calendar accordingly. The project also conducted TNA as a basis for selecting the more problematic crops for the study plot. This demonstrated that the project responded well to the TNA and farmer feedback on the training calendar.

The project used TNA to select study crops during the no-cost extension phase and the farmers identified their problems regarding vegetables, fruit and timber. One of the FFS farmers donated a piece of land for this study plot, which the FFS participants jointly planted and took care of. The project made an agreement with the farmers that they would learn more about those identified problems by establishing practical study plots. FFS farmers kept a list of the problems they encountered whilst growing vegetables, fruit and timber in their homesteads. Then the farmers had to organise the problems according to specific vegetables, fruit, and trees. They then selected two or three priority vegetables and fruits to study on the seasonal study plots. In each of the fortnightly training sessions the farmers diagnosed problems they had found in their study plots, generated remedial options and tested them out in the plots. The farmers were happy as their needs were met by trying out various options in this way. This finding encouraged farmers' participation in the training sessions.

In order for the project to be more farmer-driven, an idea was introduced for solving the current agroforestry problems. To do this, the farmers were encouraged to bring their current agroforestry based problems to FFS training sessions, preferably with samples of pests, diseases and infected plant parts. The staff then facilitated the sessions to diagnose and identify possible solutions. At the start of each session the staff and farmers decided on the session's length and agenda; the field staff then encouraged farmers to share their findings with those involved

in solving that particular problem. After possible remedial solutions had been generated, the field staff added more options where necessary. The farmers then selected appropriate options and prepared action plans for testing in their homesteads.

The project found that by addressing the farmers' current problems their participation in training sessions increased. Furthermore, the study plots and the live specimens made the learning more tangible and the flexible training structure made the project more farmer-driven. The staff played a supportive role and the farmers played an active role in applying FFS learning to their homesteads. The staff facilitated the training sessions and provided follow-up support in applying the lessons learnt, based on the needs and interests of the farmers.

"The idea of addressing current issues in training sessions encouraged the farmers to learn and apply new learning to their homesteads."

Ms. Shefali Khatun *is one of the most experienced CARE SHABGE Project Field Trainers, having worked for CARE since 1984. She has been involved in training for about 19 years, of which 11 were in the Women Development Project (WDP), four were in the Chittagong Homestead Agroforestry Project (CHAP), and the remainder were in the SHABGE Project.*

"I joined SHABGE Project in mid 1999. Back then I was afraid when joining SHABGE, as I did not have any previous work experience with FFS. However, my confidence grew by participating in the three months training called Season Long Training (SLT).

"After SLT I organised FFS in Paba Upazilla, Rajshahi. I made a training calendar with the farmers at a participatory needs assessment session. In the session I encouraged the farmers to bring up the problems they faced regarding their fruit and vegetable production. After they had identified a long list of problems I assisted them in prioritising their problems and in this way the training calendar was developed. I then conducted fortnightly training sessions following the training calendar schedule. I found the following problems in conducting this type of pre-scheduled training session:

- Often the farmers do not have the chance to apply the learning assessions are organised either before or after the occurrence of the problems with their crops.
- Sometimes demonstrations of affected plants or crop specimens are not shown to the farmers as the sessions may take place before or after the occurrence of seasonal problems.

"To address these issues, I now conduct training sessions where farmers' current problems are addressed in addition to the study plot training. The farmers are asked to bring specimens of affected plant parts to the training sessions, in order to study the symptoms. A three level discussion of each of the problems is carried out: problem diagnosis, option generation and action plan preparation. This is followed by a practical demonstration to improve the capacity of farmers. The idea of addressing current issues in training sessions encouraged the farmers to learn and apply new learning to their homesteads."

The study plots enabled the farmers to learn about Integrated Crop Management (ICM) practices. The farmers were directed to conduct Field Management Analysis (FMA) on a fortnightly basis. FMA is used as a tool to teach the farmers about crop ecology at different stages and help enhance their decision-making ability on crop management. During FMA the FFS farmers observed the factors influencing production (biotic and a-biotic), discussed, analysed and diagnosed problems, and took decisions regarding required management practices.

The project found that FMA helped farmers in identifying different technical problems and taking decisions on crop management based on the needs of the crops. Although farmers' analytical skills improved throughout FMA on the study plots, where there was less interaction amongst farmers it was less successful. Usually around 10 or 12 farmers, instead of 20 or 25, were involved in a practical FMA session. The reason for this was that some landowners were unwilling to allow 20-25 participants to go onto the study plots and risk compacting the soil or damaging the crops. Sometimes the farmers did not spend adequate time on FMA sessions. The problem was further complicated because landowners sometimes influenced the selection of the crop, which did not always match the farmers' choice.

To address these problems the project simplified its FMA process by introducing more than one study crop at different homesteads, rotating FMA in those homesteads and reducing the parameters (areas to be investigated) to soil, plant growth, insects and diseases. The project also reduced the number of

Mrs. Asia Begum *is one of the participants of Ghutail FFS in Nachole Upazilla, Chapai Nawabgonj District.*

"I became a member of the Ghutail FFS in 1999. We learned lots of new techniques/technologies in FFS. The hands-on training built our confidence in addressing problems related to vegetable and fruit production. By testing the generated options to solving problems in FFS made me more confident in tackling problems.

"During the summer of 2002, I faced a problem with my sweet gourd plant. I could not produce any sweet gourd although the plants were growing vigorously. I raised this issue in the FFS training session and learned that too much urea food (nitrogen) in the soil could be a reason for this. One of our FFS participants shared that she had heard that such plants became productive again by sticking a small stick or nail at the base of the stem. I decided to test this option.

"I tested the option with the help of a Field Supervisor. I directed a piece of stick by cleaving the base of the stem and plucked some twigs off the plants. After a few days I had 19 sweet gourds. Seeing the result the FFS participants were impressed. The participants' appreciation encouraged me to be involved in further trials."

Testing New Learning: A tool in building confidence

Technical information: a means of increasing homestead productivity

Each of the fortnightly training sessions includes: a review of the last session's learning, FMA, training on the planned topic and current problems, and message of the month.

FMA to ten, thereby covering the whole cropping cycle instead of conducting fortnightly training sessions. This was done as there were hardly any variations in the training sessions and the farmers were responsive to this change. Overall, farmers' participation in and ownership of the learning process was significantly increased.

As poor farmers, particularly female, are engaged in different household activities, the project provided special monthly messages to help prepare and motivate them to take appropriate action and steps as seasonal changes happened: changes in temperature, rain, fog, and sunlight. These messages are given to remind the farmers to prepare adequately for such jobs as the timely sowing of seeds and the fighting of pests or diseases by applying homemade pesticides.

To ensure the availability of information, the project prepared calendars consisting of a month-long schedule of agroforestry tasks to be completed. This sort of information provision helped the female farmers to increase their homestead productivity by turning their learning into action.

5. The Farmer as a Vehicle for Learning Dissemination: Successes and failures of the buddy system

The project introduced a buddy system to disseminate lessons learned within the community and to reach more farmers. As part of the learning contract, FFS participants select and share their learning with one or two neighbours called Associate Participants (APs). The expectation of the project is that Primary Participants (PPs) will share their learning informally with APs. The project staff provide formal quarterly training to review and consolidate the APs' learning.

At the beginning, PPs shared some technologies with their respective APs, some of who went on to adopt them in their homesteads. However, it was observed that many APs preferred to learn from the staff as they felt that they had more knowledge. Overall, insufficient interaction amongst PPs and APs contributed negatively to the learning and sharing process.

To overcome this problem the project directed FFSs to organise a special week or day called a "SHABGE Week" at the beginning of the production season in order to motivate APs and community members to cultivate vegetables and fruit. FFS members visited each of the homesteads in their village and shared and demonstrated different technologies. In addition, members put up posters containing messages related to fruit and vegetable cultivation techniques. The FFS participants also organised a monthly AP day. During the AP day, FFS members visited APs' houses in small groups of four or five and shared their learning with their respective APs. Moreover, as part of a technology dissemination amongst the FFS community, FFSs organised a Farmers' Field Day (FFD) once a season to share their learning.

The buddy system has helped the project reach out to more people. It was observed that PPs who could read and write were

***Mrs. Aehasatun Nesa** is one of the Associate Participants (AP) of Mrs. Anesa Khatun, a Primary Participant of Chowbaria FFS, who has been involved with SHABGE since early 2000. Anesa encouraged Aehasatun to become an AP; Aehasatun also participated in several formal training sessions organised by the project staff and applied new learning to produce vegetables in the homestead.*

"I got involved with the SHABGE Project in 2000. I was asked by Anesa to become one of the learners. At that time I did not know much about Primary Participants (PPs) or Associate Participants (APs).

"Anesa shared some of the technologies whenever I met her. During the sharing she would always talk about the method (how to do) and not the rationale (why) behind an issue. But in the training sessions Rumi (one of the Field Supervisors of Mohila Sanghoti Parisad, a partner NGO of SHABGE) would always give answers to the whys. Although I had increased my production with Anesa's prescriptive suggestions, I preferred to learn from the project staff as I could better remember what I had learned from Rumi."

"I prefer to learn from the project staff"

comparatively younger (25-35 years old) and were willing to share the lessons learnt with APs having themselves already benefited from the technologies.

Although the learning dissemination by individual participants did not work as expected, the learning dissemination through the organised SHABGE Week, AP Day, and FFD was found to be more effective.

6. Farmers' Field Day (FFD): A means of learning dissemination

The project facilitated FFS to organise a Farmers' Field Day (FFD) as a means of disseminating learning among the community. At the end of each season, FFS participants were encouraged to organise FFDs to share their learning with farmers from the local community. FFD was organised like an agricultural fair, decorating the village with colourful posters. Prior to FFD, the farmers drew up an action plan detailing who would perform what task.

FFS farmers displayed the technologies they learnt during the season by setting up 10 or 12 different stalls around the village. On each of the stalls two or three female farmers explained the displayed techniques to visitors. The audiences was invited to

"Now whenever I get information about a farmer's field day, I always try to be there"

Mrs. Morium Bibi *is a farmer from Parila, a village in Paba Upazilla, Rajshahi District. She went to the Farmers' Field Day, organised by Sonadanga FFS for the first time in the winter of 2001. She learnt about different technologies, demonstrated by the FFS participants. She is currently practising two technologies that she learnt at the FFD.*

"One day, in 2001, I heard that the women of Sonadanga village were organising a Farmers' Field Day. The village is about half a kilometre away from our home. I did not know what exactly the women would do in the FFD. I went there in the afternoon. Initially, I thought it would only provide recreation.

"I was amazed to see the demonstrations at the field day. I observed different technological demonstrations like improved pit, ash-kerosene mixture for preventing Jaba Poka (aphids), hand pollination, tree management, the dangers of applying insecticides, use of shady places, and Bordeaux mixture for preventing diseases.

"I had country beans in my homestead at that time. I could not prevent the attack of Jaba Poka (aphids) by applying ash. Normally, we apply ash whenever we face an aphid attack. So I had the idea of applying the mixture of ash and kerosene I had learnt from the FFD as I had all the materials in my home. I learnt about the preparation of this mixture by asking question at the field day. My interest in improved pit also grew, seeing the growth of the plants as well as the number of bottle gourds in their study plot.

"There was not time for me to test the performance of improved pit then as it was late winter. But the following morning I applied ash-kerosene mixture onto my affected country beans and observed a decreasing trend of aphids the next day. The prompt result encouraged me to apply the mixture three more times over a three-day period. After 15 days, I did not find any aphids in my country bean. I now practise this technique whenever I face an aphid problem.

"Then I planned to test the improved pit for producing bottle gourd. I prepared the improved pit with the help of my husband in a 2 katha land. I sowed four to five seeds in each pit and finally kept two healthy seedlings in each pit. I made trellises as well. Finally I harvested 310 bottle gourds, compared to the 120 bottle gourds that I had harvested the previous year! Now whenever I get information about farmers' field day I always try to be there."

***Rahela** is one of the participants in Andhrail FFS in Nachole Upazilla, Chapai Nawabgonj District. She is about 35 years old and lives with her three children at her parent's house as her husband left her. Since her children and herself were a financial burden to her poor parents, Rahela thought of getting involved with production.*

"I got the opportunity when Pallab (one of the field supervisors of ASHRAI) came to the village to organise a Farmers' Field School," said Rahela. "I was not too confident at the initial stage of the FFS as the geographical conditions here are not suitable for producing vegetables around the year. I raised this issue in the training session. We identified the following constraints which hamper the production of vegetables round the year:

- Water scarcity
- Compactness and hardening of soil making it difficult to dig pits during February and May (before the monsoon)
- Unavailability of the required amount of compost needed to improve the soil.

"We decided to increase pit crops and adopted improved pit techniques during the early summer, bearing in mind the above-mentioned constraints. I faced extreme difficulty in preparing the recommended size of the pit due to the severe hardness of the soil. Another thing I discovered was I could not afford to pay for the required amount of organic matter as we usually use cow dung and crop residues as fuel for cooking food. In the following training session I shared the above experiences. We then brainstormed to come up with options for overcoming the problems. After a long discussion, we decided to test a permanent pit by digging a uniform cube three feet high in October (after the rainy season) and filling up the hole by using day-to-day kitchen waste as well as a small amount of cow dung. I, accordingly, prepared three permanent pits by incorporating some composting materials over a period of time. After that I sowed sweet gourd seeds in the permanent pit in February and then used mulch. The growth of the plants was good: the roots penetrated the soil easily due to the loose soil and collected more nutrients from the pit soil. The other thing I observed was that the water-holding capacity of the soil increased due to the compost and mulch. Finally, I got 37 sweet gourds from three pits. The result encouraged and motivated the FFS members to make a permanent pit. The training encouraged us to develop new techniques that would address our problems."

Putting the Learning into Practice: Training as means of technology development

"I was not that confident at the initial stage of FFS"

the study plots to see the technologies adopted by FFS participants. The community farmers learnt through observation and by asking questions. In addition, the FFS members organised folk songs, drama and documentary film shows on SHABGE themes such as gender, dowries and early marriages. Local dignitaries, including the Union Parishad Chairman and its members, plus government officials, were invited to give motivational speeches to the community on improving homestead production through agroforestry and on improving social harmony.

Farmers' Field Day (FFD): A means of learning Dissemination

On average 800 to 1,000 participants attended each FFD. The audiences expressed satisfaction at seeing technologies displayed by the FFS participants as well as the outcomes of the technologies adopted by the participants. The project found that FFDs played a positive role in disseminating knowledge within the community. It was also found that FFDs helped to develop the communication, leadership and management skills of the FFS leaders and other female members. FFDs created an opportunity to share learning amongst a large number of people within a short period of time.

7. Training: A means of technology innovation

The training approach included identifying the causes of problems, generating options to address them, selecting options, applying new learning, monitoring and result-sharing. The farmers played an active role in every step of the process. This approach also encouraged farmers to innovate, i.e. gather options from different sources on their own and test them.

Farmers brought their vegetable and fruit problems to the training sessions. Staff assisted them to diagnose these problems and to find solutions. Sometimes the farmers were referred to the resource farmers in and around the villages or to the Block Supervisor (BS) to collect information and generate options to solve their problems the BS is a local staff member from DAE who covers an area of about 15km by 15km, a little smaller than an upazilla). Farmers were assisted in setting up trials according to new information or options. They were then encouraged to share their results with the FFS farmers.

This training approach created an opportunity for FFSs to innovate technologies with the help of resource farmers, DAE and other related organisations. Besides adopting new techniques, some of the farmers adapted techniques that they had learnt from FFS and other sources. However, the female farmers faced difficulties in finding new information/options outside their villages. The poor farmers were unwilling to try out new methodologies. They preferred to adopt only the most successful cheap and effective techniques and technologies. Considering this reality, the project encouraged the female farmers to seek support from the Resource Farmers (RFs), who have good farming knowledge in their communities.

8. Publications: A means of accompaniment

At present there are insufficient agroforestry information and knowledge providing services, even though this is a prime income-generating sector for farmers. The field staff were frequently faced with problems to do with technical aspects, particularly concerning pests and diseases. To provide technical support to the field staff, the project decided to develop manuals, calendars and flipcharts for both the farmers and the extension workers.

The project published a SHABGE calendar that provided monthly agroforestry messages and distributed them to farmers. Simple text with colourful photographs made the SHABGE calendar user friendly. The project staff used the calendar to facilitate the "message of the month" part of the fortnightly training sessions.

Following the example of the two manuals previously published by LIFT -'Homestead Bio-intensive Gardening & Agroforestry' and 'Fruit Tree Management & Improvement'-, the project produced a comprehensive manual on vegetable and fruit pest and disease management. Its simple text and colourful photographs enabled readers to identify and solve particular problems. Two flipcharts on homestead space planning and leadership development for leaders among the farmers were also found effective.

The manuals were found to be useful to the staff. The colourful photographs enabled them to identify pests and disease symptoms on plant parts so that they could assist the farmers in addressing these problems. It was also observed that the farmers were more confident in sharing the messages with their APs on homestead space planning using the flip chart. The project found that staff and farmers required these kinds of publications for technical projects such as SHABGE.

9. Inclusion of different household livelihood security aspects in training: A promise fulfilled, a promise renewed

The mandate of the SHABGE project is to develop farmers' capacity in the field of horticulture and agroforestry. In the first needs assessment session, exclusive focus was given to vegetables and fruit. The two main training activities which helped the farmers to learn and generate remedial options to solve problems were:

- Study plots for pre-selected topics.
- Special events for unforeseen problems faced during the year.

The training session steps below helped farmers to take action based on new learning:

- Problem diagnosis and analysis
- Option generation
- Action plan development.

A year and a half after the first FFS, a new TNA was carried out. Farmers raised various problems related to household livelihood issues, despite the fact that the initial understanding was that the project would work on vegetables and fruit only. One of the reasons for this was that with limited homestead space a major portion of production is used for family consumption and little is left for cash income. After learning to produce vegetables and fruit more successfully, farmers' confidence increased. They were interested in going on to explore new horizons such as learning about other livelihood issues and improving their quality of life. The farmers asked for training in new areas such as livestock, poultry, alternative field crops and other income generation activities, though these were not included in the initial learning contract.

Vegetable and fruit production to Small Scale Processing: a gradual shift towards Household Livelihood Security

The project then changed its TNA process to include other livelihood-related issues linked to farmers' needs. Accordingly, the participants included poultry, livestock, alternative field crops, and nutrition and health issues in their training plan, in addition to vegetables and fruit. As the project does not have expertise in livelihood issues other than vegetables and fruit, it facilitated FFS participants to organise training with the help of different service providers such as DAE, the Department of Livestock (DLS), the Department of Fisheries (DOF), the Youth Development Department and others. As most of the participants are involved in poultry rearing, the project organised training on cattle and poultry vaccination for the farmer leaders with the help of DLS. Trained vaccinators vaccinated livestock and poultry birds in their communities. Furthermore, FFS-based organisations planned and designed activities on small-scale processing for the extreme poor in their respective organisations. Based on the requests of farmers' organisations, the project organised income-generating activities training for poor women in collaboration with local people with the necessary resources. To date 521 extremely poor women have been trained on the small-scale processing of vegetables and fruit.

The project experienced that this kind of collaboration with different mandated departments and organisations helped farmers to solve non-agroforestry problems. It also helped FFS farmers to get involved with different income-raising activities such as processing and marketing, which contributed to reducing poverty. These kinds of additional activities created opportunities for the FFS farmers to become more united.

10. Conclusion

The training approach of SHABGE has evolved to this point based on its long experience. From farmers' participation in agenda selection to action plan preparation it has become more farmer-centred. Problem diagnosis, option generation and action plan development through selecting appropriate remedial options enables farmers to take the appropriate action to solve their problems. The practical part of the training has made farmers more skilled and confident in adopting new learning. The provision of opportunities to explore non-agroforestry problems in collaboration with different service providers has led to better results for the farmers, whose participation levels have increased overall. There remain a few challenges for the project:

Retaining trained staff: trained staff often go on to get better jobs as they have developed knowledge and skills attending SLT and other courses. As specialist knowledge and skills are required for this type of extension work, its success depends on the retention of trained staff.

Traditional training methods lead farmers to prefer prescriptive solutions: Some government and non-government extension organisations often provide prescriptive remedies to problems instead of making farmers understand the causes of the problems. As a result, farmers adopt methods without understanding the problems, making them dependent on extension agents.

Continuation of staff facilitation development initiatives: regular rehearsals and staff accompaniment have a great impact on the success of the introduction of new training methods.

Other documents available in this series:

- The notion of accompaniment
- The capitalisation of experience into knowledge (a Manuel on how capitalising).
- The Farmer Field School (FFS): An instrument for poverty reduction.
- Promoting human Institutional development.
- Promoting dynamism in nurseries' associations.
- Empowerment of farmers' organisations: Caitalisation of a new approach.
- Reaching the poorest: Capitalisation of an Experience.

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