

Part II: Gender





The Right to Learn

Women Want More Agricultural Advice

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INTRODUCTION

Millions of poor farm families in Bangladesh grow rice as a way of life. Every adult household member, male and female, plays a vital role in seeing that the rice harvested from their smallholding is enough to feed the family. Most of the women who work in field agriculture are from households with very small holdings (200 to 1,600 square meters), followed by women in landless, small and medium size farms (Safilios-Rothschild and Mahmud, 1989). Women also work more in the field in the tribal areas of Bangladesh (Sattar et al., 2004). Poor women grow vegetables on their farms, manage livestock, and work as wage labourers on other farms.

In addition, in the present transitional rural society, temporary migration of men is common with women becoming *de facto* heads of households who make all agricultural decisions, hire labour, sell crops and control - at least partially - the farm income. It is more common for smallholder women to head households and make farming decisions than official statistics suggest (Safilios-Rothschild and Mahmud, 1989).

Various non-governmental organisations (NGOs) empowered poor rural women by forming groups and lending them microcredit to generate income, but rice research and extension institutions have tended to exclude women. This has not been deliberate, but more an omission of not seeing. Women have tended to be included more frequently in topics recognised as women's work, like seed storage or crop processing. The idea that women also benefit from learning about field crop agriculture has been under-explored. This lack is associated with the widespread belief in Bangladesh that women do not do field agricultural work because of deeply embedded norms of patriarchy (a set of social relations with a material basis that enable men to dominate women) and *purdah* that prescribes seclusion and restricts women's movements outside their *bari* or homestead.

We purposefully wrote this chapter broader than 'women and extension', because it



Providing women with all sorts of information opens up the road to development.

is one's attitude to women in agriculture that influences how we include them. We trace experiences from the DFID-funded Poverty Elimination Through Rice Research Assistance project (PETRRA) from 1999 to 2004 in engaging with women. It began with integrating women into identification of research issues, and then learning how to draw women more into training and dissemination and in this way to appreciate their feedback. Including women, leading to a response by women themselves, has been the most interesting lesson for project staff and may pose the most significant shift for the future.

INCORPORATING GENDER CONCERNS

From the beginning, PETRRA's main philosophy was to put poor people first, not the technology. Over time, a value-based approach emerged and evolved along with the project that emphasised joint learning through action and reflection. Gender equity was a guiding principle for PETRRA. A gender strategy was developed that encompassed clients and research management. The gender strategy for PETRRA's sub-projects included guidelines for incorporating gender concerns in each stage of the project cycle, namely: needs assessment and constraints analysis; identification of technology options and opportunities to solve constraints; enhancing the capacity of various stakeholders (farmers, NGOs and government extension agents); farmer participatory on-farm experiments; monitoring and evaluation; testing innovative extension approaches; establishing support mechanisms to sustain adoption of innovations; and impact assessment (Paris, 2001).

However, was this to be a case of including women 'because a project demanded it'?

Needs assessment and constraints analysis

To identify poor farmers' needs and constraints to increasing rice productivity, a participatory rural appraisal (PRA) approach was required. The PRA Promoters' Society of Bangladesh together with scientists of the Bangladesh Rice Research Institute (BRRI) and local NGO personnel facilitated stakeholder analyses in major rice growing regions in the country. After the first round, where mainly men interviewed men, a more gender balanced team of facilitators started to hold separate women's meetings, besides those for all community members. For example, the Integrated Crop Management sub-project gathered information on gender division of labour in rice production as well as on farm and household decision-making.

Call for concept notes and the PETRRA approach to gender

The constraints analyses led to a call for concept notes and proposals to identify or develop technology for rice production and post-harvest and diversification beyond rice. Access to knowledge for men and women was a priority.

The proforma had a specific section on including women. On reflection, we realised that the early project requirements were too general and too easily satisfied reviewers. In a later call we included the specific issue of women-to-women extension and the assessment form was more probing in assessing engagement with women. For example, we gave bonus points if the lead person was a woman.

PETRRA provided training on gender and working with women in the village. It encouraged including women. Involving more women was a prerequisite for beginning to effectively work with them.

By incorporating gender concerns into its sub-projects, PETRRA not only helped improve women's welfare, but also made the research programmes more relevant. For example, researchers had the idea for a rice seed drying table, but women and their husbands came up with a range of designs of inexpensive tables that also met other needs of the household, such as threshing rice or storing kitchen pots (Chapter 7, this volume; Van Mele and Zakaria, 2005).

There were no early champions. The Seed Health Improvement sub-project (SHIP) focused on seed; even though preserving seed is a women's activity, only one of the 28 field researchers was a woman. In a SHIP workshop for farmers at the end of year one, no women clients attended. At that meeting some male farmers asked for women to be included in training. But other village men disagreed, even after the second year of training (see Box 2.1). Sometimes gender and community participation clash (Guijt and Shah, 1998).

The quarterly monitoring report required by PETRRA included a section on women, asking more or less, 'What work have you done with women in the last quarter?' Apparently sub-projects provided post-harvest training for women even if their focus was soil fertility management. Women were being included, but on the edge.

The NGO Shushilan (see Chapter 10) provided a useful insight. Although only working with a few farmers, half their demonstration plots were managed by women. Although they previously did not work in agriculture but did focus on women, Shushilan took the initiative under PETRRA to give women training in rice growing, not just post-harvest.



To ensure that only poor women participated in the research sub-projects, communities identified their own poverty criteria and classified households through well-being analysis.

Seventy eight women joined the ten farmer field schools. When women spoke up in the sessions, men realised how much women knew about rice farming, and that women play an important role in herbicide safety and in household decision-making. Later on, the men even asked the project to invite the women to PETRRA's communication fair in Dhaka.

Women said that attending the farmer field schools improved their knowledge of rice growing, and therefore their ability to contribute to family decisions. They also learnt how to wash the sprayer, away from ponds, and to bury empty herbicide containers. Chemical weed control saved time for more profitable activities. Since women no longer had to cook meals for hired labourers, they had more time to spend tending vegetable gardens, which women are allowed to do because vegetable plots are close to the homestead and not considered 'public'. Women said that they had more time to tend goats, chickens, cows and fish to supplement their family income.

Testing and validating technologies with farmers

Promising technologies, whether developed by scientists or farmers, were tested and validated by farmers on their own fields.

In all parts of Bangladesh, drying rice seed in the rainy season is a new need, brought about by the introduction of irrigation pumps and modern varieties. Rice grown in the dry or boro season is harvested at the onset of the rains. So in early 2002, CABI Bioscience started several participatory activities in the SHIP sub-project. Multipurpose seed drying tables emerged as a pro-poor technology, developed by women in Maria village, Bogra (Van Mele and Zakaria, 2005). The technology rapidly spread to other areas. Through the Rural Development Academy (RDA) in Bogra, with the help of the local government, 1,800 out of 4,800 households of Amrool union made drying tables, most of which also served for threshing rice. Large national NGOs such as the Bangladesh Rural Advancement Committee (BRAC) and Proshika included it in their programmes, and when the Agricultural Advisory Society (AAS) introduced it in their women-led group extension programme, more than 60% adopted the technology (see Chapter 3). The drying tables also featured in one of the videos on seed health (see Chapter 5), which were disseminated to multiple NGOs, governmental organisations and TV stations.

But also local skills were validated scientifically. BIRRI scientists learnt through a carefully designed trial that women accurately assessed seed moisture by cracking rice grains between

Children prepare a mud meal. Playing is one of the earliest and pleasantest styles of learning by doing.



their teeth. This trial was developed to open scientists' eyes to the value of local skills, and to increase women's self esteem. The men watching the outdoor event from the sidelines shared in the climax when results were revealed.

In another sub-project, for the first time ever in Bangladesh, women alongside their husbands rated unreleased varieties prior to harvest in a 'mother trial', established by scientists in a village. Scientists learnt that women prefer coarse grain for eating and fine grain for sale, while men are mostly interested in yield and plant type. Women also received seed of their selected varieties which they evaluated in 'baby trials' in their own field, using treatments they expressed a particular interest in (Gregorio et al., 2004; see also Paris, 2002; Snapp and Heong, 2003; Paris et al., 2005).

Testing different types of trainers and groups

To speed adoption of technologies that will directly benefit poor rural women, PETRRA encouraged partnerships with NGOs that were already working with women's groups. PETRRA tested several approaches to rapidly disseminate farmer-validated technologies and ensure that they respond to women's needs - not only to men (Table 2.1).

Women-led group extension

All the extensionists and clients of this approach are women. It was tested to determine whether local women can be effective extension agents and under what conditions. The NGOs that successfully tested this approach were AAS, Rangpur Dinajpur Rural Service (RDRS) and Shushilan.

Chapter 3 describes how AAS successfully disseminated post-harvest technologies to poor female farmers after forming and developing the leadership of 26 women-led groups in Kishoreganj and Habiganj districts. Initially, female staff members of 10 local partner organisations, covering 30 villages, were trained as trainers, but soon trained village women volunteered to spread the word to other villages. Both the low cost rice seed drying tables and use of plastic drums with naphthalene for rice seed storage are now being widely used by women of the project's and neighbouring communities.

RDRS in collaboration with BRRI and a local NGO, Janani, established nine women-led extension groups to spread technologies to poor women on rice-potato-rice cropping. The recovery percentage of credit was higher for women-led groups than for non-women-led and male-oriented extension. The project strengthened the decision-making ability of women farmers, and the institutional

CABI Bioscience helped the Seed Health Improvement sub-project validate local skills. Women were invited to rate three batches of seed with different moisture content. Results of the voting test came mainly as a surprise to local scientists. "We are confident," laughed the women, "we were born in the rice."



capacity of local organisations to access good quality services, and be responsive and accountable to the delivery of services.

Family approach in agricultural extension

The Department of Agricultural Extension (DAE) tends to include mainly male farmers in their training activities and to deal only with new methods in rice production. Women's training focuses only on homestead activities, if they receive any training at all. However, crop management decisions affect the whole family and not only the male head of the household who is often referred to as the only farmer in the household.

Table 2.1 PETRRA's research on extension: different types of trainers and groups

EXTENSION APPROACH	WOMEN'S ROLE IN DISSEMINATING INNOVATIONS	OUTCOMES
Women-led group extension on seed drying and storage (AAS; Chapter 3)	Women promoted seed drying tables using pictures, village fairs and folk songs	Technologies were widely adopted and further promoted by village women extension agents, beyond the project area
Women-led group extension on rice-potato-rice cropping technologies (RDRS)	More than 90% of the participating women shared their experience from training and cross-site visits with other poor women	Recovery of credit is higher from women-led groups than from others
Family approach to extension on rice and seed production (AAS; Chapter 4)	Women trainers taught women-only or mixed groups; women shared learning more readily with the wider community than men did	Training husband and wife together improved decision-making, adoption of technologies and rice provisioning ability
Farmer-to-farmer extension on seed health improvement (SHIP)	Women and men trainers taught other farmers how to improve the quality of farm-saved seeds	Seed management improved from the field until post-harvest, resulting in 10-12% yield increase

Chapter 4 describes how trained female staff of partner organisations with the help of a female agronomist from AAS taught different kinds of groups of poor farmers: single sex groups, husband and wives, or whole families (including children). The training contents, materials and schedule were based on discussions with selected farmers. The main lesson of this project is that including women in training enhances learning within the family and wider community, for all topics.

In the SHIP sub-project, both husbands and wives were invited to participate in training and extension. Focus group discussions revealed that the participation of

husbands and wives led to better gender relations after training. For example, they started sharing their opinions on different crop management aspects.

Another sub-project used the family approach for training farmers about more efficient application of nitrogen fertiliser by making use of a visual tool, called the leaf colour chart (see photo). Trained women kept their leaf colour chart in a safe place and reminded their husbands to apply their newly acquired knowledge.

According to the NGO RDRS, in Northwest Bangladesh, women were more sincere in participating in extension and were more dedicated than men in following the advice from the groups' weekly learning sessions.



Women shared their knowledge more readily with their neighbours. By applying less nitrogen fertiliser at more appropriate times, farmers said they were now able to buy a sari for their wives. Based on insights from these projects, other NGOs decided to use the family approach for upscaling technologies for horticultural crops, and integrated farming systems such as rice-fish and rice-duck.

Testing learning tools with women

Several learning tools were developed and tested to spread information to women: videos, photographs, and cultural shows (Table 2.2). While developing these tools, women's opinions were elicited and considered.

Colour photographs

In the women-to-women extension approach described in Chapter 3, small groups of women were given A4-size colour photos, showing different drying scenes. Sessions were built around the photos, on the principles of adult education. Learning the basic ideas of seed drying triggered the participants' creative thinking.

Educational videos by women for women

Chapter 5 discusses how four short training videos on caring for healthy seed were

developed. Village women without any previous training were invited to review a first rough edit of the videos. They made major improvements in the script, and asked to see all four programmes linked together. To ensure relevance to farmers, and scientific soundness, the team learnt to identify and involve both local innovators and technical experts early in the script writing.

Educational entertainment

Chapter 10, in Part III on learning with rural communities, describes song-and-dance shows to motivate social and technical change. Despite the advances in electronic communication, live shows are again becoming popular. Shushilan added educational themes to neo-traditional musical shows to share ideas about appropriate rice technology. The Shushilan troupe sings and dances in front of a painted, scroll backdrop to promote modern varieties, improved chemical and organic fertilisers, line transplanting, seed health and natural enemies of insect pests. They performed 24 shows in different areas of Southwest Bangladesh. More than 25,000 people, half of them women, attended the shows. These shows were fun and educational for women who have limited access to cinemas and little opportunity to attend conventional extension programmes.

Noticing Shushilan's success, other PETRRA sub-projects got inspired. The women-led extension project by AAS held a village fair to demonstrate rice seed drying and storage, around which theme a local troupe made a song and performed (Chapter 3).

What women learnt

Women who participated in these projects said that they benefited from the training not only in terms of production and income, but also in recognition, saving money, making sound decisions, managing crops better, among other benefits.

Recognition

"Before only NGOs talked to us and loaned us money. But now for the first time scientists came to us, asked questions and listened to us. We did not realise that we have knowledge to share. We also learnt that how we manage seeds affects the rice yields, and that how rice is managed in the fields will affect the quality of the seeds we keep. Thus we realised how important our roles are if we practice what we learnt from the training."



The leaf colour chart helps farmers to make better decisions on amount and timing of nitrogen fertiliser, resulting in significant savings and better yields.

Saving and earning money

"Now we know more about fertiliser management particularly the proper time and amount of application so that we don't waste money. We also want to know how to manage pests without the use of too much chemicals. We have heard of IPM (integrated pest management), but we don't really know what this means." "By producing quality seeds, we can now sell good seedlings and earn money. We use our money for buying good clothes for our children, who are now motivated to go to school. We also use our money for buying mustard oil rather than soybean oil, bath soap, sandals, and also goats."

Making sound decisions

"It has been our custom for women not to go to the field. But it will be useful for us to know how much and when to apply inputs so that when our husbands are away, we can also make sound decisions when we supervise the labourers we hire." "Now we know that kopal (fate) cannot control our production. It is the knowledge we gained and how we use this knowledge which makes the production good or bad."

Managing crops better

"Before we were not allowed to go to the fields and did not have any knowledge about managing the rice plants in the fields. Now we know that we can play an important role by caring for the crops in the fields, by visiting them once in a while to see whether there are insects or diseases. Taking care of rice is just like taking

Table 2.2 PETRRA's research on extension: learning tools for poor women

LEARNING TOOLS	WOMEN'S ROLE IN DISSEMINATING INNOVATIONS	OUTCOMES
Photographs on seed drying (AAS; Chapter 3)	Female project staff and later also village women extension agents used laminated photographs to support their group discussions	The visual support gave women confidence that the technology was easy; more than 60% of women made their own drying table
Videos on post-harvest (CABI and RDA; Chapters 5 and 7)	Village women provided inputs in the script research, development and refining the videos on rice post-harvest innovations	There is high demand for the videos; video offered a way for village women to spread their learning beyond their village
Cultural shows on rice and seed production (Shushilan; Chapter 10)	Women used popular mass culture (folk songs, drama and dance) to carry agricultural messages; women acted as demo farmers and extension agents	The NGO can hardly keep up with demand to perform shows with various messages; women became successful demo farmers

care of our children, whom we nurture from infancy until they grow up."

Better social status

"The community used to undermine us. Now we have proven that we are in no way inferior, but rather superior to our male counterparts in the field and in the household. Even if we do not go to the field, we advise our husbands how to prepare the fields, sow the seeds, or transplant the seedlings better."

Breaking down cultural barriers

"Before the men and our neighbours used to ridicule us when we worked in the fields. Now they have accepted this."

MAJOR LESSONS FROM WORKING WITH WOMEN

1) There must first be a commitment to include women. Partners need space to gain confidence in including women.

2) Partnerships can be an important means of increasing access to women. For example, TMSS is a women's NGO that formed a partnership with RDA and CABI for developing educational videos. The link has opened the eyes of TMSS to opportunities in agriculture for their women clients and also provided an entry point for RDA to work with women. Government extension agents also gained more confidence in working with women after partnering with NGOs and community-based organisations.

3) Women should be given access to all agricultural information, not just on post-harvest, even if they do not work in the field. Their knowledge and skills are vital in making sound decisions on growing rice and post-harvest, particularly when wives become *de facto* heads of households after husbands migrate to jobs in the cities or abroad.

4) Learning by doing (through participatory on-farm experiments, hands-on training and managing their own demonstration plots) is important for disseminating technical know-how to poor women with low levels of formal education and social restrictions on their mobility. Women demo farmers can overcome these barriers after proving that they can learn improved technologies and that they know as much as male farmers about field agriculture.

Men still like to casually slip in during women's group training sessions.



5) Women who are trained as local extension agents should have the credibility to disseminate the technologies to other women, either by testing the innovation themselves or by demonstrating its effectiveness. Potential adopters are aided in evaluating a new idea if they are able to observe it in use under conditions similar to their own. They should have the ability to work well with people and be willing to take training, train others and share information.

6) Innovative women farmers make excellent extension agents. For example, with capacity building and limited financial incentives from the NGO AAS, female farmer extension agents confidently developed new women's groups in neighbouring villages.

7) There is no single prescribed extension method to reach all poor women. However, in the early stages, women can express themselves better if they are with a group of women only. Village meetings may start with mixed groups, followed by single sex groups to keep men from dominating the floor. More women have access to training if it is village-based rather than residential. Agricultural topics traditionally geared towards men only, should be given to husbands and wives jointly (family approach in extension).

8) Biological scientists and agronomists should listen to women's opinions, assess attitudes towards certain practices and consider their criteria in the design and dissemination of rice technologies. For example, women's criteria for a seed drying table are: simple, low cost, made from local materials, easily transported, and with multiple uses. Also extensionists can learn from women: women preferred photos to written messages and liked posters to be placed in their house or the village health centre. The video scripts for women-to-women extension were developed and refined based on rural women's inputs.

9) Learning methods and tools such as educational entertainment, videos and photographs are relatively cheap and can add value to face-to-face extension in disseminating knowledge-intensive technologies.

10) The dissemination and adoption of certain technologies may require sustained support. For example, Shushilan developed a mechanism to supply seed and inputs among the farmers per their need, and opened an agricultural information centre, managed by a woman. Women demo farmers need continued access to quality seeds for their demonstration plots.

CONCLUSION

PETRRRA sub-projects promoted gender equality by going beyond a concern to 'include women' by training women on rice farming, not only on post-harvest. Women-to-women and family approaches reach poor women effectively. Videos, photos and musical shows spark the audiences' interest and facilitate learning. The following case studies show that poor women, despite social barriers and low levels

of formal schooling can be effective change agents if given equal opportunities as men in getting training and access to support services and resources. In a policy dialogue held in Dhaka, Bangladesh, several gender-responsive policies were suggested, one of which was to channel agricultural credit through women rather than men (Paris et al., 2004; Hossain et al., 2004).

In 1987, Robert Chambers and Janice Jiggins outlined some hopeful ideas for participatory research, citing now familiar ideas such as scientists were not working with farmers; research was reductionist and could not easily handle complex interactions of resource-poor farming. They concluded that there were some worthy efforts, but no one was really doing research with farmers (Chambers and Jiggins, 1987a, 1987b). Ten years later, Jiggins and colleagues made specific recommendations to improve women's access to extension (Jiggins et al., 1997), the challenges remaining high. As this book shows, there are now mainstream agricultural R&D projects that have new methods for interacting with resource-poor women to develop and spread appropriate technology.

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