The Good Seed Initiative: Improving food security for the poorest households in Bangladesh through the use of ‘Women-to-Women’ videos

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Abstract
‘Women-to-Women’ training videos are being used to reach women from poor households in Bangladesh. A series of Women-to-Women videos that explain and demonstrate best practise for the production, selection, processing and storage of rice seed have been shown to thousands of poor women in their own villages, with the help of local service providers with access to VCD operating equipment, such as shops, cable TV operators, NGOs, schools, tea-stalls and richer farmers. Women who have watched the videos twice or more have reported that as a result of implementing the best practises, they save an average of 4kg (18%) seed per acre and have increased their boro rice yields by an average of 6% and t-aman yields by an average of 3%. This provides an overall grain increase of 103kg per household and represents more than 20 extra days’ food security, at no extra cost, for food insecure farming families. Many of the women reported that they had gained respect from their husbands and been rewarded with new saris as a result of this increased productivity.

Background
Millions of rice farmers in Bangladesh rely on seed that they have saved from a previous crop. Much of this seed is contaminated with disease and weed seed and this is leading to declining yields. Furthermore, farmers discovered that they must dry modern, boro rice varieties that are harvested at the end of the dry season during the succeeding rainy season. Drying seed during monsoon conditions presents a serious problem since rice seed and grain is normally dried by solar radiation, on bare earth within village compounds or on open roads.

In early 2002, CABI initiated several participatory activities as part of the ‘Seed Health Improvement’ sub-project, SHIP (under the DFID-funded ‘Poverty Elimination Through Rice Research Assistance’ or PETTRA project). Field officers from the Rural Development Academy (RDA) and a local NGO, Agricultural Advisory Society (AAS) travelled from village to village collecting local women’s innovations concerning the processing of rice seed. Simple technologies such as the use of portable seed drying tables, picking out spotted/diseased seeds, using teeth to determine seed moisture and a candle to eliminate oxygen from storage pots were validated scientifically. Following skills training provided by a UK-based communication company, field workers from RDA, AAS and a national women’s NGO, TMSS, produced four short, stand alone training videos on seed spots and sorting, seed flotation, drying and storage technologies, Table 1.

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Table 1: Post harvest interventions addressed in videos

<table>
<thead>
<tr>
<th>Brief description of technology</th>
<th>SEED SORTING</th>
<th>SEED FLOTATION</th>
<th>DRYING</th>
<th>STORAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manually remove diseased seed</td>
<td>Add salt or urea to a bucket of water until an egg floats; drop rice seed into the water and remove any seed that floats to the surface</td>
<td>Make a bamboo table or bench for drying rice; it can be quickly moved in doors in case of rain</td>
<td>Paint an earthen pot; fill it with rice seed do not leave a dead air space; add neem or bishkatali leaves and seal the pot. Store pot on raised platform</td>
<td></td>
</tr>
<tr>
<td>Scientific principles; level of outside knowledge</td>
<td>Small modification of existing practise</td>
<td>First drying tables made through participatory technology development</td>
<td>Combined scientific and local knowledge and practise</td>
<td></td>
</tr>
</tbody>
</table>


Over the past two years, with the help of funding from the Swiss Agency for Development and Co-operation (SDC) the videos have been re-edited with additional footage and extracts have been made as video-clips for use in Bangladesh TV’s popular farming programme, Mati-O-Manush.

**Spreading the message to the poorest households**

SDC funding also provided the opportunity to reach many thousands of women with the information contained on the rice seed videos, under CABI’s Good Seed Initiative: AAS field workers identified several different ‘service-providers’ (organisations that have facilities for showing videos) in two districts. The service providers selected were village cable TV operators, local NGOs and schools. All were willing to show the videos free of charge. After a short awareness-raising training session the service-provider staff were given copies of all four videos, in a VCD format. Records were kept of the numbers of people who attended the shows: Between 2005 and 2007 the selected service-providers gave a total of 297 rice seed VCD shows which were attended by a total of 7,130 women and 8,000 men. AAS built on the success of this new approach to knowledge dissemination by distributing 223 more VCDs to groups of women who had come together in order identify suitable venues for showing the VCD within their own communities and to 32 more service-providers in nine districts, mainly road-side tea stalls but also schools, grocery shops and local NGOs. This led to an additional 8,600 more VCD shows, attended by a total of 157,861 mainly women farmers.

**Assessing the impact of watching the rice seed VCDs on household food security**

In order to assess the impact of watching these VCDs on the amount of seed saved and any changes in rice yield, a total of 115 women from food insecure households were interviewed by AAS field staff in 10 villages and in four districts, during 2007, see Table 2. Seventy percent of the women interviewed had watched the VCDs twice, while 20% of them had watched them only once. The remaining 10% had watched the VCDs three or more times. The women said that they had watched the VCDs in houses of neighbouring, affluent farmers who own VCD players and other similarly resourced local meeting places, such as primary schools, tea stalls, village markets and grocer's shops. Each female respondent was asked about the size of her family’s landholding and that of any leased land, the number and ages of her children as well as any differences in seed use and rice yield (transplant-aman and boro) before and
after watching the VCDs. The data indicates that 97 out of 115 farming families were able to use 15% less rice seed per unit area after watching the VCDs twice or more and learned how to clean, select and improve the storage of their seed. There is also a strong possibility that the cleaned seed produced higher yields during both the boro and t-aman seasons (notwithstanding seasonal variations in temperature, rainfall, input applications and management practises): Sixty-eight, ultra-poor landless farming families reported that they saved an average of 4 kg of rice seed per acre ($\sigma=3.0$) and gained an average increase of 6% in boro production and 3% in t-aman production during the following seasons. This is a total average annual rice yield increase (boro+t-aman) of 103 kg per household. This represents 10% of their average household rice deficit of 1,090 kg/year and an average of 32 extra days of food for an ultra-poor (food insecure) landless farming family. Forty-seven marginal (food insecure) farming families saved an average of 4 kg of rice seed per acre ($\sigma=2.4$) and gained an average rice yield increase of 88 kg, which is 20% of their average rice deficit of 419 kg per household. This represents 22 extra days of food security for this socio-economic group, see Table 2. The women reported that they had gained increased respect from their husbands and been rewarded with new saris as a result of these seed savings and yield increases.

<table>
<thead>
<tr>
<th>Socio-economic group</th>
<th>VCD: times seen</th>
<th>Land owned acres</th>
<th>Land rented acres</th>
<th>Rice deficit Kg/family</th>
<th>Seed saved Kg/acre</th>
<th>Yield increase Kg/family</th>
<th>% of rice deficit</th>
<th>Extra days’ rice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landless (68)</td>
<td>2</td>
<td>0</td>
<td>0.4</td>
<td>-1,090</td>
<td>4</td>
<td>103</td>
<td>10</td>
<td>36</td>
</tr>
<tr>
<td>Marginal (47)</td>
<td>2</td>
<td>0.3</td>
<td>0</td>
<td>-419</td>
<td>4</td>
<td>88</td>
<td>20</td>
<td>22</td>
</tr>
</tbody>
</table>

Conclusion

These results suggest that the poorest and most food insecure farming families can reduce their rice seed requirement and increase their food security by at least four weeks, at no extra financial cost, simply by implementing a series of improved practices, concerning the selection and storage of rice seed, that they have watched twice on a VCD. Plans are being made to distribute these VCDs even more widely in Bangladesh and surrounding countries, while more follow-ups, focussing on the impacts of watching the VCDs on food insecure farming families, over several seasons, are needed.

Farmer-to-farmer videos offer a mechanism for the rapid dissemination of key extension messages amongst millions of poor and ultra-poor farming families in remote rural areas, either via self-help groups or as part of more formal training sessions. In the latter case, they ensure that the original high quality training is maintained no matter how many times the session is repeated. Where there is a group facilitator, his/her role is to guide farmers’ discussions in order to answer any questions that may have arisen during the screening of the VCDs and to demonstrate any practises that require clarification. However, this method of information transfer depends on the availability of hundreds of potential service-providers with access to reliable power supplies, within the community for its success.

References


Rice Seed Preservation Technology; Seed Sorting by Flotation; Spotted Seeds Means Diseased Seeds; Well Dried Seed is Good Seed. 2007. Irrivideo, You Tube: www.youtube.com/user/irrivideo