Participatory scaling up of participatory varietal selection

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Abstract

Farmers are the ultimate beneficiaries of new agricultural technologies, and the best indicator for the success of a technology is its acceptance and uptake by them. We discuss the benefits of the active involvement of farmers in scaling up the results of participatory varietal selection (PVS) and participatory plant breeding (PPB). We discuss the stakeholders and partnerships for participatory scaling up of varieties. In Nepal, we describe the evolving partnerships between government organisations (GOs), non-government organisations (NGOs), and community-based organisations (CBOs) that is designed to combine the strengths of the stakeholders whilst sharing responsibilities and resources.

Background

For over five years in Nepal, LI-BIRD, in collaboration with CAZS, has been developing and promoting participatory crop improvement (PCI) and participatory plant breeding (PPB) approaches. These approaches have been found to be simple, rapid and effective in identifying and disseminating farmer-preferred technologies (Joshi et al. 2001; Joshi and Witcombe, 2002; Witcombe, 2001).

The next important step was to find better ways of scaling up to improve cost-effectiveness. The first assumption was that the active involvement of farmers in this process - 'participatory scaling up' - would greatly improve cost-effectiveness. Participatory scaling up involves farmers as seed producers and disseminators. When there is a high degree of farmer involvement it is easier to benefit resource-poor farmers in remote regions, but it also works well for more favourable environments. Another important advantage is that technology verification and adoption takes place simultaneously.

We begin by briefly reviewing the role of farmers before discussing the different stakeholders in this process and the partnerships that are evolving in Nepal.

The role of farmers' participation

Participatory scaling up is designed to maximise the contribution of farmers in the process. For example, farmers are identified that are key individuals in the informal seed supply system in the village. Such farmers are contracted to produce seed for the project for dissemination by informal research and development methods (Annexe 1) or they are given good quality source seed and asked to disseminate the harvest through their usual informal network. During the participatory scaling up process individual initiatives, the actions of farmers' groups, and the results of informal farmers networks have been documented to illustrate the role of farmers in the process.

One example of the role of an individual is Mr. Daya Ram Khandka, Chairman of the Dhadwar Village Development Community (VDC), Bardiya District. He is also a farmer, and a member of the Kulanath Krishak Samuh (a farmers group). Mr. Khandka took on the responsibility of distributing seeds, periodically monitored activities, and maintaining records of the yield and yield components of all the varieties on offer from a LI-BIRD and District Agricultural Development Office (DADO) Bardiya collaboration. The farmers' group saved the entire seeds of all the varieties for planting next year. They have their own norms for exchanging seeds; any farmer wishing to get seed of new variety shortly after harvest within the month of Mangsir (Nov 16 to Dec 15) could do so just by exchanging seeds for rice grains. However latecomers will have to buy the seed paying cash at a rate of two rupees less than the standard price for seed fixed by Agricultural Inputs Corporation (AIC). This community initiative for varietal evaluation and seed management indicates a sustainable way of achieving impact from PVS.

One of the greatest displays of interest for testing and adopting new varieties from a single-season’s exposure was at Beladevipur village, Kailali District. Most of the people in the village whom the monitoring team could see could tell the names of
all the varieties tested in that site, the relative performance of all the varieties, and which particular variety they would grow next year. Such interest is only possible when an external agency has been the catalyst of providing seeds and information so that farmers have interacted intensively with their fellow farmers on the merits of the new varieties.

There was also good evidence of farmer-to-farmer seed spread in Kailali District. Nearly 1500 kg rice seeds of the new varieties would be planted this season in all the sites in Kailali from an initial 300 kg that was distributed (Ram Ayoudhaya Mahato, DADO, Kailali pers. com.).

The spread of variety BG 1442 in Chitwan and Makwanpur districts provides one of the most convincing examples of the effectiveness of farmer networking. The variety was introduced in farmers' field trials during the early nineties as a Chaite rice variety but it is yet to be formally released by the national research system. The variety is promising for the Chaite season; for partially irrigated well-drained conditions as a main season rice variety and is equally suitable for Bhadiya system (rainfed land in the terai where early-maturing rice varieties are grown). The crop is planted in May and is called Bhadaiya because it is harvested in the Nepali month of Bhadra (late Aug-Sept).

The variety is spreading very quickly from farmer-to-farmer. LI-BIRD introduced a few kilos of seeds of this variety in participatory varietal selection (PVS) trials in 1998-1999 and subsequently in informal research and development (IRD) from 2000 to 2002. The variety increased rapidly in area from 2001 to 2002 to cover nearly 1200 ha, about one third of the Chaite area in Chitwan district. The spread was encouraged by the breakdown of the predominant variety CH 45 to blast diseases. The variety is also spreading in villages in the neighbouring district of Makwanpur and covered nearly 50 ha area in the main season of 2002. Most of this is from farm-saved seeds spreading through the farmer-to-farmer network, facilitated by distribution of source seeds by DADO, Chitwan, LI-BIRD and some farmer cooperatives in eastern Chitwan.

Although farmer-to-farmer spread of seeds is very important and has been the major source of seed in most developing countries, including Nepal, it is not the fastest system. Farmers consume seed on-farm and sell it as grain to the markets so only a proportion can be used as seed for sowing. Our experience with most of the farmer-to-farmer spread has been that a three to four fold increase is often found, but a sixty fold increase can easily be achieved with an organised seed increase and distribution programme. This efficient seed source of officially multiplied seed can be used most effectively when it is distributed widely and to many farmers.

**Stakeholders and modes of partnership**

Once the central role of farmers was established, a first step in scaling up is the identification of stakeholders and devising the most appropriate mode of partnership (Table 1). Lack of lasting effects of some of the research and development projects designed and run in top-down approach in the past was due to lack of farmers' participation, and ignoring the central role that farmers can play. There was also a lack of identification of all stakeholders and their roles and responsibilities.

Scaling up is more complex than simple technology generation or verification because it involves more stakeholders. Technology generation often ignores farmers and multi-partner approaches (Table 1). A multi-partnership is the most suitable one for scaling up (Table 1) in which farmers play a central role.

The benefits of this approach are particularly important when, as is common, linkages between research and extension are poor and government extension services are restricted to serving more accessible areas by limited resources.

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Partnership modes for participatory scaling up

**NGO and Community partnerships**
An important form of collaboration that is emerging for participatory scaling up is collaboration between NGOs and Community-based organization (CBO). The CBOs are usually farmers’ groups that were already established for cooperative enterprises or for specific users' interest, e.g. drinking water. Three CBOs were as follows:

- Women’s group (Narayani Mahila Milan Club, Amaltari, Kumarti-9);
- Mixed farmers group (Gramin Swablaman Bikas Kendra, Bishaltar, Devchuli-1);
- Water users’ group (Naya Belhani Khanipani Upabhokta Samiti, Naya Belhani-2).

LI-BIRD signed LoA with three CBOs in Nawalparasi, one of them was formed by DADO office while two got organized on their own.

In this type of partnership, both organisations have a high degree of institutional flexibility. Its success will depend on both the type of partners respecting each other's roles and responsibilities (Box 1) and, in the case of LI-BIRD and three CBOs (Narayani Mahila Milan Club, Amaltari, Kumarti-9, Gramin Swablaman Bikas Kendra, Bishaltar, Devchuli-1 and Naya Belhani Khanipani Upabhokta Samiti, Naya Belhani-2), there were three separate partnerships modes for participatory scaling up:

Box 1. Scaling up through farmers' groups in Nawalparasi District

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<th>The process</th>
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<td>Participatory rural appraisals (PRAs) to identify community-based organizations suitable for participatory scaling up, and the analysis of secondary information through agricultural service centres.</td>
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<td>Documentation of profile of short-listed farmers' groups by PRA.</td>
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<td>Selection of established farmers' groups.</td>
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<td>LoA with three farmers' groups (FGs), two mixed groups and one women farmers' group</td>
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<td>Implementation of programme through the groups.</td>
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Role of farmers' groups:

- Responsible for carrying out all the field activities: farmer identification, (focus on poor and medium-poor farmers), distribution of seeds, record keeping, including the monitoring of varietal adoption.
- Seed production and farmer-to-farmer distribution.
- Group decision making.

Role of LI-BIRD:

- Imparting necessary skills for scaling up through orientation, training and exposure visits.
- Providing technical backstopping.
- Assisting in monitoring and evaluation.
- Providing financial and institutional support for scaling up.

Box 2. Letter of Agreement between DADO Chitwan and LI-BIRD for participatory scaling up

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<th>Roles of DADO</th>
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<td>Full responsibility for implementing scaling-up activities through their networks.</td>
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<td>Preparing a joint annual plan and obtaining the approval of the Ministry through the regular planning process.</td>
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<td>Periodical monitoring - collecting field information and preparing progress and technical reports.</td>
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<td>Providing financial and other institutional support to seed production of the new, unreleased varieties, as applicable to released varieties.</td>
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<tr>
<td>Farmer and staff skill development on participatory approaches through orientation, training and exposure visits.</td>
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<tr>
<td>Organizing periodical coordination and review meetings with LI-BIRD.</td>
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Roles of LI-BIRD:

- Arranging source seeds of the farmer-preferred varieties for the scaling up.
- Assisting in preparing the annual plan.
- Imparting skills to DADO staff through joint activities and through orientation and training programmes.
- Sharing in data analysis and report writing.
- Organizing seasonal monitoring tours involving DADO, DoA, NARC & IAAS staff.
- Providing agreed financial and institutional support.
LoAs to make these clear. However, the scale of operation of NGO and CBO partnerships will usually be limited as most farmers groups are local organisations.

**NGO and GO partnerships**

**LI-BIRD and DADO Chitwan.** One mode of working is collaboration between an NGO and a GO. An example in Nepal is the partnership between LI-BIRD and the Government line agency the DADO in Chitwan district. One unique feature of this partnership was the signing of a letter of agreement (LoA) for three years, which agreed the roles, and responsibilities of the two partners (Box 2). However, the sustainability of this approach could be improved if funding was from the recurrent budget of the government rather than a special project funded by the Plant Sciences Research Programme.

This agreement between an NGO and a GO may be one of the first examples of its kind in Nepal (LoA signed by district level authority of the Department of Agriculture rather than at the Department level) although there are other examples of GO-NGO collaboration for specific development objectives at the Department level, such as collaboration between CARE Nepal and the Departments of Soil and Water Conservation and the Department of Health Services.

The initial interest for the formal collaboration came from the GO. However, informal collaboration started before that; when LI-BIRD initially set up the research project it consulted DADO Chitwan on identification of project villages and DADO staff regularly participated in the monitoring of the participatory varietal trials. DADO then started scaling up of the unreleased farmer-preferred crop varieties from their own funds for over a year.

Expanding the collaboration to more district offices. A stakeholders meeting was held in Kathmandu in February 2001 to discuss building on the existing partnership between LI-BIRD and DADO, Chitwan. The meeting agreed on the advantages of the participatory scaling up and set up a joint Working Group of the Department of Agriculture (DoA), Nepal Agricultural Research Council (NARC) and LI-BIRD. The Working developed a proposal to scale up the activities in Chitwan to four more districts: Dhanusha, Sarlahi, Bardiya and Kailali. This was subsequently approved by the authorities from DoA, NARC & LI-BIRD. The World Bank-funded Agricultural Research and Extension Project (AREP) agreed to provide a small grant for this work. Farmer-preferred rice varieties were produced and disseminated in 2001 in the major rice growing domains in each of four districts.

Farmers tested the new rice varieties in long-standing water, irrigated, partially irrigated and rainfed conditions, and for the Bhadiaya system.

**Consolidation and further expansion to more organisations.**

A workshop was organized in January 2002 jointly by Department of Agriculture (DoA) and LI-BIRD to share the findings from the five collaborating district offices. Representatives from seven DADOs participated and developed seven project concept notes (PCNs) for participatory scaling up of PVS-identified and PPB-produced varieties.

The possibility was discussed of incorporating the work plans of the PCNs into the regular planning process of the DoA to attract regular funding. Some of the DADOs have already done so, indicating a greater acceptance and uptake of the approach by the DoA. Although the extent of activities differs greatly, currently activities have been extended to 17 terai and two hill districts. In these initiatives, LI-BIRD is also collaborating with other NGOs such as FORWARD, REGARDS, CARE and PLAN International, in addition to working closely with the DoA.

**Opportunities**

Currently there is a helpful environment for participatory research and scaling up in Nepal. The Ministry of Agriculture and Cooperatives have adopted partnership as one of the main approaches to agricultural research and development. His Majesty's Government of Nepal has set up a competitive funding system for action research and scaling up called the National Agricultural Research and Development Fund (NARDF). Agricultural extension will very soon be devolved to the local government, which necessarily involves decentralization and a greater emphasis on people's participation. DADOs are also considering the contracting out of some of their service delivery function to improve the efficiency.

**References**
