

Implications for policy

- **Defining the agenda.** Promoting farmer-led research is one way to involve smallholders in defining the ARD agenda – a need widely acknowledged by funders and policymakers.
- **Involving women in ARD.** In realms of farming and natural resource management where women are heavily engaged, they should and can be the key actors in farmer-led research and development.
- **Mainstreaming** this approach of participatory ARD with men and women farmers in the driving seat requires transformation in the structures and policies of research and extension institutions. Stimulating scientists and extension agents to join farmers' research requires new job descriptions, research approval procedures, and ways to reward performance. Supporting farmer-led research is an unaccustomed role for scientists and extension agents: shifting from control to facilitation calls for changes in behaviour and attitude. It is a long process that requires iterative training and mentoring.
- **Multi-actor processes.** Managers of research and extension need to recognise and make space for working with a range of actors in innovation processes, including the private sector.
- **Research funding** needs to be transformed to support farmer-researchers. Funding mechanisms, along the lines of LISFs, should be made accessible to farmers under the control of community-based organisations.
- **Transforming teaching.** Institutions of higher education need to incorporate methods of experiential and participatory learning in order to create linkages between students and farmer-researchers. This would prepare the students as future ARD professionals who are open to engage with farmers in joint research. Staff of these institutions will need support to transform curricula and to find creative ways to involve innovative farmers and groups in learning cycles.

Controlling bacterial wilt

AgriService Ethiopia (ASE), coordinating NGO of PROLINNOVA–Ethiopia, discovered that farmers were actively seeking how to control bacterial wilt, a major problem in the staple food in southern Ethiopia: enset (*Enset ventricosum*) or “false banana”. This had not been a major focus of formal research but, in Amaro District, farmer innovators Behailu, Somali and Dereso were experimenting with extracts from euphorbia, *Aloe vera* and wood ash, respectively. A District Research Coordination Forum with experts from Awassa Research Centre (ARC), the Office of Agriculture and ASE supported farmers in conducting trials to compare the effectiveness of these locally developed innovations. A plant pathologist from ARC gave advice in experimental design and data collection. The farmers applied the treatments and, guided by the scientist, inoculated the plants with bacteria. They observed how the disease spread. The farmers found the euphorbia extract to be most effective. ASE and development agents (DAs) organised field days and workshops for joint learning by other farmers and DAs. The experience not only validated local innovation but also increased the farmers' confidence to interact with formal researchers.

Demekch Gera & Tesfahun Fenta in Farmer-Led Joint Research (2010)



Farmer innovator and scientist observe effect of treatment on enset plant (Photo: Tesfahun Fenta)

This brief is based on the booklet Farmer-Led Joint Research: Experiences of PROLINNOVA Partners, Silang, International Institute of Rural Reconstruction (IIRR 2010) edited by Chesha Wettasinha and Ann Waters-Bayer.



PROMoting Local INNOVation in ecologically oriented agriculture and natural resource management is a community of practice involving partners in several countries in Africa, Asia and Latin America. Initiated by NGOs, this Global Partnership Programme under the umbrella of the Global Forum on Agricultural Research (GFAR) embraces both state and non-state organisations. It promotes recognition of local innovation by women and men farmers as an entry point to farmer-led participatory research and development. The ultimate aim is to integrate this approach into institutions of agricultural research, extension and education. Funding comes mainly from the Netherlands and French Governments, Rockefeller Foundation and partners' own contributions.

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Policy Brief

Tapping the energy of farmers' creativity: supporting farmer-led joint research

Policy pointers

- Promoting farmer-led joint research is one way to involve small-scale women and men farmers in defining the agenda of agricultural research and development (ARD).
- Embracing this approach within ARD calls for major changes in structures and policies of research and extension institutions.
- Research and extension managers need to recognise and make space for working with a range of other actors in innovation processes, including the private sector.
- Funding of research needs to be transformed to support farmer-researchers. Some funding mechanisms should be accessible to and controlled by farmers.
- Institutions of higher education need to transform their curricula and methods of teaching in order to create linkages between students and farmer innovators.

Local capacities to innovate and experiment need to be discovered and enhanced in order to generate locally appropriate technologies for smallholders and to strengthen their capacity to adapt.

Facing new challenges

Small-scale farmers worldwide are persistent innovators, in their efforts to adapt to changing conditions and to survive. Many scientists and development workers – in their zeal to instruct farmers – overlook this local creativity and source of energy for change.

One way to tap this energy is to identify innovations developed by farmers and then explore them jointly: farmers, formal researchers and development agents. In this way, local and scientific knowledge can be blended to develop locally appropriate solutions.

This approach, referred to here as “farmer-led joint research”, is being used by several organisations working with smallholders in various countries in Africa, Asia and Latin America. Staff members in government agencies and non-governmental organisations (NGOs) are jointly learning to recognise farmers' ability to innovate and experiment to overcome challenges or test new ideas. They are learning how to support these local initiatives in ways that increase the farmers' capacity and confidence to face new challenges. Cases of farmer-led joint research provide examples for policy dialogue with a view to including this approach in the repertoire of agricultural research, extension and learning institutions.

Discovering local innovation

Local innovation is the process through which people, on their own initiative, develop better ways to do things. They may be exploring new possibilities out of curiosity, or responding to changes in the state of natural resources, asset availability, markets, climate etc. The innovations emerging from this process can be new ways to farm, manage resources, add value to and market products etc.

PROLINNOVA vision:
A world where women and men farmers play decisive roles in ARD for sustainable livelihoods



Starting with local innovation provides an entry point for joint research embedded in local realities and driven by farmers' interest. This is where the energy lies: in exploring possibilities to solve local problems or grasp opportunities that farmers already see. It focuses on local achievements rather than starting with problem analysis, which dwells on farmers' weaknesses and leaves them feeling that they must depend on external support.

Discovering how and why farmers innovate makes outsiders appreciate what local people are already trying to do to improve their situation. Also the farmers start to see themselves differently: although often poor in terms of financial resources and formal education, they realise they are rich in knowledge and ideas. A sound basis is laid for true partnership, in which the different contributions of the partners are equally valued.

Farmer-led joint research

In a process of farmer-led joint research, men and women farmers and other ARD actors explore the local ideas in ways that encourage all partners to bring in their own knowledge. The partners need not be scientists. They may be extensionists or known experts, including other farmers. They may be input suppliers or processors. They are often, like farmers, driven by their curiosity whether new things work in the area. Private-sector people are also motivated by the chance to expand business or start a new one, if the innovation succeeds.

Joint research encompasses a variety of activities. It could be a trial conducted by farmers and extensionists (and maybe scientists) to find out which botanical substances

are most effective in controlling diseases in animals or crops. It could be collaboration with a mechanic or engineer to make an implement easier to use or more efficient. It could involve working with private enterprises or consumer organisations in exploring processing and marketing procedures to see how benefits along the value chain can be more fairly divided. It could be working with communication experts to try out new ways of sharing information about agriculture. Thus, the focus could be on "hard" (technologies) or "soft" innovations (changes in institutions or methods) that farmers have chosen to investigate and for which they draw in other supporting expertise.

In all cases, the research is led by farmers, with the support of other ARD actors.

An approach to development

By no means should farmer-led joint research be the only approach promoted in ARD. But it has an important role to play in the repertoire of ARD. Indeed, it is probably more an approach to development than to research. Most cases of farmer-led joint research involve development agents who encourage farmers to experiment with new ideas, from whatever sources, rather than trying to convince them to adopt technologies that have not been tested locally.

However, some involvement of scientists in or at least their exposure to this joint research can influence the way formal research is done and the questions it addresses. And the involvement of men and women farmers in a leading role strengthens their capacities to exert direct influence on formal research.



Fish smoked in improved ovens fetch higher prices on the market (Photo: Manori Wijesekera)

Joint experimentation on fish smoking in Niger

A team of scientists and extensionists in PROLINNOVA–Niger discovered a locally developed fishsmoking oven in the village of Boumba Kaina in Dosso Region. The community was aware of the oven's limitations and responsive to the team in setting up a joint experiment to improve it. Ideas of the community and the team were blended in designing a new oven. Four farmers (2 men and 2 women) compared the improved oven with the local one. The roles and responsibilities of the different stakeholders in the joint research were clearly worked out – the farmers took the lead; the PROLINNOVA team played a supportive role.

The improved ovens proved far superior to the existing ones on many counts such as quality of smoked fish, wood-burning efficiency, duration of smoking etc. The fish smoked in the improved ovens fetched higher prices on the market and the demand increased. This led to further socio-economic developments in Boumba. Several families invested in making new ovens on their own. The fish-smokers set up a savings-and-credit scheme to finance construction of new ovens. Women and men requested literacy training so that they could monitor their own experiments.

Saidou Magagi, Jean-Marie Diop, Adam Toudou, Sabo Seini & Abdou Mamane in Farmer-Led Joint Research (2010)



Uttam describing how he developed the jhalkari (Photo: Ecoscentre)

Reducing fodder wastage and women's work in Nepal

Uttam is a farmer in Sissai village, Chitwan, Nepal. His family has sheep, goats and buffaloes. In the wet season, the animals are kept and fed indoors. Uttam's wives and daughters collect the fodder, but a lot is trampled by the animals. Uttam wanted to find a way to reduce fodder wastage and the women's work. With fishnetting, he made a bag for the fodder (*jhalkari*) and hung it in the stall so that animals could eat from it. This innovation was identified by Ecoscentre, a PROLINNOVA–Nepal partner, and improved through a process of joint experimentation. Uttam and two other farmers, supported by Ecoscentre staff, tried out different shapes of the opening to make it easier to refill the bag. Women gave feedback on each design. Finally, the farmers chose as the best design a round opening created by suspending the net on a light iron ring. This simple yet useful innovation was taken up by many livestock-keeping families, not only in Uttam's village but also in the surrounding area.

Basanta Rana Bhat & Rajan Ghimire in Farmer-Led Joint Research (2010)

New ways to fund local R&D

One key way to assure that control remains with the farmers is to give them access to resources for funding research they regard as important. In eight countries in Africa and Asia, FAIR (Farmer Access to Innovation Resources) is piloting Local Innovation Support Funds (LISFs) for farmer-led joint research and innovation managed by local organisations. Men and women farmers and groups propose research projects. The local fund management committee selects those to be supported. The funds are used to buy materials for the farmer-led research, to pay supporting specialists (scientists or others) or to obtain relevant information. This mechanism turns conventional research funding on its head. It will be a sign that farmer-led joint research is truly mainstreamed when part of the government budget for ARD is allocated to such community-managed innovation funds.

Lessons from practice

- Farmer-led joint research is an experiment with a new way of working that is unfamiliar to all partners, also farmers. Past experience has led to certain habits and expectations in interactions between farmers and other ARD actors. There is need for trial and error, reflection and honest assessment of what happened, until people learn to interact as genuine partners in ARD – especially until farmers with less formal education gain the skills and confidence to assert themselves in communication with formally educated scientists.
- The innovations that farmers develop may seem very simple but this should not prevent other ARD

stakeholders from engaging with farmers in joint research. As in the Nepal case (see box) outputs of joint research on the simplest of innovations have been readily taken up by other farmers, leading to positive livelihood impacts.

- Simplicity of experimental design and visual assessment are characteristic of farmers' research. Farmers who experiment are interested in seeing whether the experiment brings about tangible change of use to them. Thus, the design of farmer-led joint research has to make sense to the local people and directly address the key questions they pose.
- Farmer-led joint research should be organised so as to include both women and men. This is especially important when it concerns activities in which women play a major role, such as sowing and weeding, livestock care, food processing and selling.
- ARD stakeholders can support farmer-led joint research by facilitating wider learning: helping communities organise farmer tours, meetings of experimenters and farmer-to-farmer training. They can develop booklets, brochures, posters, films or radio broadcasts to share information about farmer-led joint research.
- Open communication between farmers and their partners in joint research encourages a culture of experimentation within rural communities.