

New partnerships in knowledge management for local innovation

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Mainstream agricultural research has focused primarily on technical and biological aspects and is aimed at controlling or manipulating nature through the use of external inputs, such as agricultural chemicals or super seed. In developing countries, the results of this research have benefited some richer farmers in well-endowed areas, were suitable to only a limited extent for poorer farmers in these more favourable areas, and were – in most cases – quite inappropriate for small-scale farmers in marginal areas, e.g. in the mountains or drylands. Conventional agricultural research has thus by-passed a large proportion of the poorer farmers in developing countries.

Importance of local innovation in ecologically-oriented agriculture

Many NGOs working with small-scale farmers in marginal areas – and a few committed scientists working on the margins of some research institutes – therefore entered into another type of research designed to develop site-appropriate technologies and to strengthen farmers' capacities to meet new challenges. In the process, they learned to appreciate the value of indigenous knowledge and its dynamics. Many "success stories" of development in smallholder agriculture derive from local knowledge and experimentation. At field or farm level, they are often technical innovations following ecological principles; at landscape level, e.g. in watersheds, they are often institutional: new ways of jointly managing common resources.

¹ This presentation is based on the paper "New mechanisms for strengthening partnerships in research and development of ecologically-oriented agriculture and natural resource management" (12 May 2000; <http://www.egfar.org>), prepared by the Rambouillet Steering Group (Mutizwa Mukute, Yang Saing Koma, Luis Guerrero, Jean Marc von der Weid, Didier Pillot, John Farrington, Frans Neuman and Ann Waters-Bayer), and has been enriched by insights from the report on the Bellagio Conference on Sustainable Agriculture: Evaluation of New Paradigms and Old Practices, edited by Norman Uphoff (CIIFAD, Ithaca, 1999).

What has been constraining and encouraging local innovation?

However, the division of labour conceived by many academics and decision-makers in agricultural research and extension still follows the pattern of “transfer-of-technology”: knowledge is created by scientists, is packaged and spread by extension services – including NGOs – to be adopted by farmers. Campaigns are still being launched in several countries to disseminate new techniques – whether these be so-called Green Revolution techniques or sustainable agriculture techniques, Greener-than-Green, Doubly Green or whatever. Extension workers have been telling farmers how they should apply the new techniques, and then (if the system works as planned) they visit the farmers from time to time to make sure they’re doing it right – the well-known “T&V” (Talk-and-Vanish?) system.

This approach effectively squelches local creativity and innovation. It may teach farmers how to apply a particular technique, but it does not strengthen their capacities to adjust to changing conditions: to adapt the techniques, to seek new ones and to develop their own site-appropriate systems and institutions for resource management.

However, as I mentioned, there are examples of alternative approaches to agricultural research and development – many pioneered by NGOs, but also a growing number of examples in national and international research institutes. Many of these activities involve encouraging farmers to test techniques developed by scientists and to adapt them to the existing farming systems. This is already a big improvement over the conventional approach.

In still other cases, the focus is specifically on promoting local innovation by farmers: first: discovering what farmers themselves are doing in their own informal experimentation, how they are developing and testing new ideas – from whatever sources – to improve their farming; and then: building on these local initiatives, conducting experiments jointly with farmers to develop these techniques further – in other words, participatory technology development or, perhaps more aptly, participatory innovation development, combining local and external knowledge.

It is especially in this way that improvements are being made in ecologically-oriented agriculture and natural resource management. In the case of small-scale farmers in marginal areas, many of whom are forced to adapt and innovate frequently in order to survive, their new ideas for improving or at least maintaining productive use of the land are based primarily on the use of local inputs. Their agroecological innovations are site-specific and can therefore seldom be scaled up without adaptation. But the ideas and principles behind them can inspire farmers in other areas and provide starting points for their own experimentation. Spreading these innovations can accelerate learning by others who are also trying to improve their land-use systems.

Why are new partnerships needed?

In ecologically-oriented NRM, the key ingredients for success are not external production inputs but rather labour, knowledge and local management capacities. Scientific research for development in this sphere must seek not to develop perfected technologies (which, in any case, are likely to be of limited applicability over time) but rather to develop local capacities to manage resources flexibly, to access useful information, to test new ideas, to assess the results and, thus, to adapt to changing conditions. This demands new approaches in research and development, as well as in processing and disseminating relevant information. It demands new partnerships in generating and managing knowledge.

Proposed mechanisms for new partnerships

In today's age of electronic communication, information in agricultural sciences is expanding exponentially; the databases with documented knowledge are proliferating. However, it is difficult to apply this information directly to development practice. Some NGOs and their research partners in the field have therefore conceived an information system that combines local and scientific knowledge about agroecology and NRM. It revolves around an interactive development database – INTERDEV – which will make promising technologies and experiences in NRM accessible to development practitioners.

Thus far, most of the documented knowledge comes from science, but how can local innovations – products of knowledge generation by resource users – be fed

into INTERDEV? How can other farmers be helped to access and apply information about these innovations in their own settings, so that they can further expand their own site-specific knowledge? PROLINNOVA (PROmoting Local INNOVAtion) addresses such activities “before” and “after“ INTERDEV.

Studies of the processes and conditions for generating and spreading innovations in NRM are needed to inform decision-makers at various policy levels – therefore, a research network POLICYNET is also being proposed.

INTERDEV, PROLINNOVA and POLICYNET together make an integrated set of mechanisms to strengthen partnerships in research and development in ecological agriculture and NRM. Here at the Global Forum, we hope that a large number of stakeholders in agricultural research will be interested in developing these ideas further and planning how to put them into action.

First steps

Initial ideas for these new partnerships in knowledge management were developed by European-based NGOs offering information services and training related to agricultural development. Meetings in Brussels and at the European Forum in Wageningen in early 1999 and a North-South meeting in Rambouillet near Paris in late 1999 gave opportunities to bring these ideas together. A Steering Group with members from Africa, Asia, Latin America and Europe prepared a concept paper which has been made available on the Web and was circulated also by email for reactions and suggestions. But even before this Forum, first steps have already been tested.

INTERDEV. In the test phase for INTERDEV up to mid-2001, initially only 13 organisations from North and South focus on three themes – ecological farming systems, processing natural products, and urban and periurban agriculture. Each theme has interlinked database subsets on: methods and technologies, practical experiences, resource organisations and individuals, multimedia, and bibliographic references. Mechanisms for description, validation, classification and exchange are being developed so that the information can be downloaded and adapted for local use, at the same time as local experience is uploaded and enriches the

global database. After the test phase is over, more themes related to NRM will be added.

PROLINNOVA. To scale up the promotion of local innovation in ecological agriculture and NRM, five types of activities are planned:

1. Identifying and documenting local technical and institutional innovations
2. Promoting farmer-extensionist-scientist partnerships to further develop and scale up innovations and innovation processes
3. Joint analysis of research approaches and methods to stimulate innovation, including analysis of the processes of a) investigating local innovation, b) participatory innovation development, c) monitoring and evaluation of innovations and their impacts, and d) scaling up innovation processes.
4. Training researchers in the new approaches and methods through various activities, including participation in multi-stakeholder learning groups
5. Facilitating the formation of regional and global research and development networks according to agroecological zones and types of innovation.

Particular attention will be given to institutional innovations involving collective management of natural resources, such as in soil and water conservation, community forestry, management of common pasture and fishing grounds. Especially here, it is hardly possible to separate research and development. Interventions must take the form of action research, based on local institutions and initiatives, monitoring and evaluating both process and impact, and linking with policy and legislation, for example, on rights of access to resources. Research is needed on, e.g. mechanisms of conflict management and concerted action for change. Stories of successful institutional innovation in NRM need to be analysed and exchanged.

POLICYNET. The policy research network on NRM will study options to improve policy at local, national and international level, and will make results available in appropriate forms to decision-makers at all these levels. The collaboration will be designed to strengthen the capacities of all partners to conduct policy research and to inform policy more effectively. The initial focus will be on political conditions and institutional set-ups that favour development and spread of local innovation in

NRM. POLICYNET should – in end effect – help create the necessary space for successful local initiatives.

Linkages

The three components are very closely interlinked. INTERDEV is a pivot where practice-proven information on ecological agriculture and NRM flows together and is made accessible. PROLINNOVA includes mechanisms to identify and document local initiatives for INTERDEV, and to promote use of the information to stimulate participatory research and development. INTERDEV provides POLICYNET with data for comparative analyses and cases for studying the conditions that influence innovation and scaling-up processes. The results of PROLINNOVA-inspired innovation and of the POLICYNET research flow back into INTERDEV.

This initiative involving PROLINNOVA, INTERDEV and POLICYNET is designed to facilitate mutual learning by stakeholders in research for development of sustainable land use, and it seeks linkages with relevant existing initiatives.

Partnerships making a difference

But – some of you might say – how does this differ from what development NGOs and supporting information services have been doing for years: collecting and disseminating information on ecological agriculture and farmer-led development? What differs is the wider partnership of stakeholders. We now have the opportunity to join forces with committed researchers and development workers and farmers who have – or at least hopefully soon will have, if this Forum indicates the direction – organisations behind them that encourage an approach to research designed to build on and strengthen the creativity of local people. Among many of the stakeholder groups represented here today, the realisation is growing that a more holistic and interactive approach is needed that integrates formal and informal research, that integrates research and extension, research and development. We will hopefully no longer be on the margins or battling against the stream – we can start moving in the same direction, in joint research to develop sustainable agriculture, and will hopefully have more sustainable support for this.

Finally, a reminder:

The new possibilities of electronic databases and communication offer tremendous opportunity for spreading and exchanging information about innovation, but promotion of local innovation will not come about by having bigger and better and brighter databases. Learning comes through action, interaction and joint reflection – if it is to be widespread, it must be a social process. Yes, there will be a need to improve the capacities of partners to access and contribute to electronic information exchange. But this can only complement – and can never replace – the personal contacts that set off sparks of inspiration. Just as farmers learn most effectively from discussing and working together with other farmers, so all of us here in Dresden from quite different stakeholder groups, including farmer organisations, are learning and developing ideas through personal interaction – and it is often the more informal exchanges that bring us the most. Such opportunities for people to interact – both formally and informally – can be arranged, such as here by the organisers of the Global Forum. Let's not forget this as we plan strategies to improve knowledge management for agricultural development. People – not computers – create knowledge.

Partnerships for local innovation in EA/NRM

