

Identifying farmer innovation and experimentation

Defining “local innovation” at country level

Most development workers, researchers, policymakers and others involved in ARD are not aware of the many initiatives of farmers to solve their problems or to cope with their difficulties. They are often so occupied with offering advice to farmers or finding solutions for farmers that it hardly ever occurs to them to actually look around or to ask farmers what they themselves are doing. Thus, a very first step that development professionals may choose to take on the road to discovering the potential of farmers is identifying local innovators and their innovations.



Pastoral women in Ethiopia have developed innovations in milk processing and marketing (*photo: Beriut Woldeyes*)

This was one of the first challenges faced by the various development professionals who became partners of PROLINNOVA in the country programmes: How do we identify local innovators and innovations in our own areas? In most countries, this question gave rise to lively discussions on the definition of “local innovation”, which allowed for a free exchange of ideas and stimulated everyone to think more deeply about the subject. Each country programme defined local innovation in its own way – and, indeed, defining the term was part of the process of understanding the concept better. The partners continue to revise their definitions as they go along.

Different definitions of “local innovation”

In Ethiopia, partners in PROFIEET (Promoting Farmer Innovation and Experimentation in Ethiopia) defined farmer innovation as: a different way of doing agriculture and NRM through creating new practices or modifying existing ones; bringing additional value over the common practices of the community, without affecting the broader environment and other innovation performances negatively. They see farmer innovation as a function of farmers’ wisdom, informal experimentation, learning and action, and as something embedded in the social system.

In South Africa, partners in the country programme defined innovation as: a method or idea developed by an individual or a group without external support; a tested idea; a practical solution to a problem that an individual or group developed.

In many countries, partners had already worked with concepts of “local/ indigenous knowledge” and therefore keenly examined how “local innovation” differs from this. In Nepal, for example, partners concluded that local innovation is often based on IK, but takes this knowledge a step further by trying something new, something that had not been done before at that specific locality. They refer to IK as “traditional innovations”. They came to the agreement that local innovations may be:

- traditional but modified innovations
- innovations brought from outside, but modified or value added in the local context
- altogether new innovations
- new innovations directly transferred from another location.

Despite the differences in the way the country programmes define “local innovation”, the underlying principles remain the same. Because discovering how farmers are innovating is a means to an end, rather than the focus of PROLINNOVA, these differences do not compromise the main goals of the programme.

Ways of identifying local innovation

Having reached some level of agreement on the semantics, the country programmes then went on to find ways to identify local innovations. To start with, they decided to raise awareness about local innovations among the field staff in their own institutions and in other institutions beyond the NSC and the Core Team. This was fundamental if the partners were to actually document local innovations in the field.

Ethiopia chose to establish multi-stakeholder platforms in different agro-ecological zones. In each zone, the NSC organised two events to prepare staff members of major stakeholder organisations to identify local innovators and innovations. The first was a seminar to familiarise the participants with the concepts of PID. The participants then agreed on an assignment to identify local innovations in their areas of work and discussed how to go about doing this.

How can we identify an innovator?

- **Observation.** Walk to the farmhouses and fields; when we see new things, these may be innovations.
- **Identification by key informants.** Ask key informants (e.g. development agents, local leaders) in the area for the names of farmers whom they consider to be local experts, and interview those farmers whom they regard as most innovative.
- **Chain or “snowball” interviews.** After visiting farmers whom key informants regard as very creative and often trying out new things, and after talking with them about their innovations and informal experiments, ask these farmers for the names of other innovators/ experimenters they know and go and visit these people, and so on.
- **Reconstructing innovation.** Ask a group of farmers to list one or more agricultural innovations that have been made in the last ten years and are relevant for most of the families in the area; ask them to identify the farmers who played an important role in introducing, adapting or developing these innovations, and go and talk with these farmers.

Source: PROFIEET (2005)

The seminar participants agreed to record the innovations in the local language, also with photographs and/or drawings, and to select the two “best” innovations for presentation at the follow-up workshop on PID. Here, the innovators themselves presented their work.

In Ethiopia, PROFIEET – as the PROLINNOVA programme calls itself there – had the advantage that it could build on the experiences of the earlier ISWC programme (1997–2001), which Mekelle University coordinated. The President of the University and ISWC-Ethiopia co-coordinator, Mitiku Haile, describes how they went about identifying local innovators at that time:

“The Development Agents kept their eyes open as they drove, rode or walked through their work area. Whenever they came across something unusual, they stopped and asked questions about it and got into discussions with the farmers concerned and also with their neighbours. They also consulted key informants such as local leaders and older inhabitants about farmers who were trying out new things or doing something different. They looked at technologies that were relatively new but already widespread in their areas of work and, using the ‘snowball’ interview technique (one farmer interviewed suggests other farmers to be interviewed), they tried to trace the history of the innovation and identify the original innovator. Another method was to seek farmers who did not accept an extension package as it was but did things differently to what was recommended.”

Source: Mitiku Haile et al (2001)

The Core Team in Uganda took a similar approach as in Ethiopia, but gave more detailed guidelines for documenting the local innovations identified. It organised a training workshop to familiarise partners with the concepts of local innovation, PID and the principles of documentation. The participants then planned how they would make surveys of local innovations.

Surveys of local innovations in Uganda

In 2004, PROLINNOVA–Uganda organised a course to train facilitators of PID. The participants were NGO field staff, research scientists, representatives of governmental organisations under the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) and research/teaching staff from Makerere University. The course ended with an action-planning session, which included strategising how to mainstream PID into the participants’ institutions. One of the action points was to identify and document local innovations in ecologically-oriented agriculture and NRM. The participants decided to focus on organic pesticides, livestock management, bee-keeping, energy conservation and community mobilisation (social innovation).

The initial surveys of local innovations were made by the field officers of the Core Team partners in PROLINNOVA–Uganda: Environmental Alert, Africa 2000 Network, Kulika Charitable Trust and PELUM Association Uganda. They used an “Innovation Scoring Sheet” as a kind of checklist, and applied this informally while they were carrying out their regular work in the field.

Innovation Scoring Sheet

Category	Technical description of innovation	Farmer: Village: Sub-county: District:
Practical issues	Score (1–10)	Comments
Originality		Where did the idea come from?
Usefulness		What was the purpose of coming up with the innovation?
Adaptability		How modified?
Problem solved		What problem is solved by the innovation?
Replicability		Is the innovation replicable in the locality?

Category	Technical description of innovation	Farmer: Village: Sub-county: District:
Acceptability		Policy-wise, socially, culturally, ecologically?
Technical viability		Simplicity, solving technical problem, effectiveness?
Economic viability		Does it help save or generate more income? Is it cost-effective? Is it marketable (financial proceeds)?
Gender responsiveness		Can either sex use it? Do all benefit? Can all be involved in decision-making?
Research potential		Requirements for further experimentation to find out reason behind its success, research for validity, add science to local knowledge, research for value addition ...
Affordability		Are materials needed available locally?

In some cases, the field officers filled in the checklist while talking with individual farmers or land users/managers; in other cases, particularly for social innovations, they did this with groups. They collected information both in writing and in photographs. They read back the information to the innovators to verify that the written notes were correct, and obtained the innovators' consent to share the information more widely.

The field officers then gave their documentation on local innovations to the PROLINNOVA-Uganda Core Team, which assessed the innovations using the 11 criteria in the Innovation Scoring Sheet, putting most emphasis on originality, the extent to which the innovation solved local problems and its potential for further research. The innovations selected according to these criteria served as a basis for local innovators, field officers, Core Team members and interested researchers to design joint experiments.

Ronald Lutalo (Environmental Alert)

All of the country programmes conducted introductory workshops of this type but, once the participants were back in the field doing their regular work, most of them still grappled with the practical challenge: how to actually discover innovators among the local people? It sounded easy in the workshops, but required creativity in the field. In Ghana, for instance, field workers began the search by looking for and asking about local people who were doing something new, but even this was not easy at first.

Identifying farmers' innovations in south Ghana

In 2004, PROLINNOVA–Ghana started a process of identifying farmers' innovations in the Volta, Western and Central Regions of the country. Through this process, the partners in the country programme hoped to create awareness of what farmers are doing themselves to improve their farming, and to strengthen partnerships between farmers, development agencies and scientists.

As a field extensionist working with the Ministry of Agriculture, I started to look for farmers with interesting innovations. This was not easy at first, even though I know the area where I work quite well. Not everybody understands what "innovation" means, so I had to start by asking for someone who is doing "something new". Some farmers referred to something they had tried once, and which was not visible anymore. And many farmers found it difficult to differentiate what they had tried and done on their own from what somebody had told them. But the process got easier over time and, after a couple of months, I had collected about 50 cases.

Source: Ruth Tagoe (2006)

Each experience in identifying and documenting local innovations raised challenges and gave further food for thought. As Ruth Tagoe of the Ministry of Food and Agriculture in Ghana says, not only discovering but also documenting the discovered innovations is not easy:

"Farmers generally do not keep records, while it may be essential to consider input quantities, concentrations, or the energy or effort required for each innovation. And effective innovations dealing with a particular process, such as controlling a pest, are easily lost once the problem has been dealt with successfully. Farmers have very little time to spend talking with an outsider about what they do."

Source: Ruth Tagoe (2006)

Discovering local innovation by women

In identifying local innovations, there is often a male bias. The partners in the ISWC programme in northern Ethiopia noted this tendency. This was partly because the women in rural families did not regard themselves primarily as farmers and did not present themselves as innovators. Even if women had developed new ideas, they did not usually come forward to show and explain them; male members of the family did this instead. In order to raise women's

self-esteem about their farming activities and to change their own and others' perceptions on gender roles, ISWC–Ethiopia organised a series of workshops for development agents (DAs), researchers and university staff and students to raise awareness about agricultural innovation and gender roles. Already the initial workshop included visits to women innovators whom the workshop facilitator, Fetien Abay, knew from her own field research. She then gave the participants the task of observing and documenting innovations by male and female farmers in their working areas. It was especially the DAs who managed to identify innovative female farmers. Women tend to be involved in the more “invisible” activities in the home, farm and community. Many of the agricultural innovations by women consist of small-scale changes in farming practices, such as digging infiltration pits, planting grasses for multiple purposes or trying out new plant varieties in the backyard. The DAs were in the field longer than were researchers and university staff and had more opportunity to see what these people may overlook during quick visits (Fetien Abay *et al* 2001).

Particularly in societies where women are traditionally expected to be invisible in the public sphere, ISWC partners had to be creative in order to discover how women are innovating in agriculture and NRM. In Tunisia, for example, women are involved in many activities in rainfed and irrigated farming such as hoeing, weeding, watering and harvesting crops, and feeding and watering livestock. They also fetch water and collect firewood and fodder near the village. However, 95% of the local innovators initially identified by the (male) research and extension staff in the ISWC–Tunisia programme were men. The ISWC team therefore looked for ways to identify women innovators.

Identifying women innovators in Tunisia

In the local culture in Tunisia, male researchers and development agents from outside the village are usually not allowed to talk with village women. The ISWC team in the Arid Region Research Institute was composed exclusively of men. They asked some professional women from technical schools – female teachers and their female students who returned home for the long summer holidays – to identify women’s innovations in their home villages. The ISWC team trained 15 women to document the role of women in farming and processing farm produce. Within two months, the trainees managed to identify 31 female innovators. Most of these were innovating in livestock-keeping, such as incubation of chicken eggs in dry cattle dung. But many were also innovating in cropping (e.g. water-efficient irrigation of melons), handicrafts, use of medicinal plants, more efficient use of energy, and food processing.

The identification process continued through a regional radio programme on agriculture and innovation, in which rural women spoke about their innovations and responded to phone-in questions from listeners. This stimulated still more women to phone in about their own innovations or ask their children to write on their behalf to the radio station.

The process of recognising women innovators was further facilitated by recruiting a female sociologist to join the ISWC team.

Source: Nouredine Nasr et al (2001)

One way to identify women innovators is to look specifically at activities in which many women are usually involved, such as gardening, goat-keeping and bee-keeping. For example, members of the Northern Typical Highlands (NTH) team within PROFIEET in Ethiopia took a closer look at what kind of new ideas were being developed by local bee-keepers, and found several innovations developed by women (see Case 4 in Chapter 3). When NTH team members joined a group organising an exhibition of new agricultural technology in Tigray Region, they recommended to the government agencies and NGOs involved that women should make up at least one-third of the farmers that they sponsor to go to the exhibition. This corresponds with the portion of female-headed households among all rural households in Tigray Region. And, indeed, about one third of the participants were women – as exhibitors of their innovations and as visitors to the exhibition. Recommending this quota was a way of encouraging development professionals to open their eyes to the innovativeness of women farmers.

In some cases, such as South Africa, it is obvious that innovations in rural areas will be by women, because the men are normally working elsewhere, such as in mines or as labourers in cities or in other countries. A large part of the farming is done by women. Partners in South Africa recorded numerous examples of new technologies and institutions related to agriculture and NRM that rural women had developed, without there having been any need to give the field staff additional training in gender awareness. Some of these innovations by women are recorded in PROLINNOVA – South Africa's *Catalogue of Farmer Innovations* (Villiers *et al* 2005).

The partners involved in the PROLINNOVA programme in Niger decided to take a closer look at forms of local social organisation in which women are involved, in order to discover institutional innovations – which tend to be particularly “invisible” – that could be supported. Here, they came across a group of women who had transformed their traditional savings “merry-go-round” into new ways of saving and sharing money.

Giving recognition to innovative farmers

Celebrating farmers' innovativeness

Giving recognition to local innovation raises the self-esteem of farmers, who begin to see themselves not as the poor who have to be helped to solve their problems but rather as people who are rich in knowledge, ideas and ingenuity in surviving under difficult conditions – as people who are admirable. Simply by identifying and documenting farmers' innovations, formally-educated agricultural professionals are already giving recognition to these farmers. This generates pride in local knowledge and creativity. Being recognised as researchers in their own right builds up the self-confidence of the farmers, who are then more likely to regard those who admire them as trustworthy partners.

In addition to identifying local innovations, some country programmes have designed special activities to celebrate farmers' innovativeness and to reward the farmers: fora, awards, featuring on radio and television, in newspaper and newsletter articles, in catalogues of farmer innovations and in posters and pamphlets. Celebrating local creativity helps to stimulate it on all sides. Researchers and development workers become more enthusiastic to support farmers' initiatives, and farmers become more motivated to work together with other stakeholders in ARD.



Wasp trapper developed by farmer innovator in Nepal has been featured in local newspapers (photo: Suman Manandhar)

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Women's innovation in savings and credit in Niger

In the Aguié area of Niger, women have been creative in trying to generate additional income despite scarce cropland and little formal education. Most women belong to small informal groups that collect cash contributions on a weekly, bi-weekly or monthly basis and pay the collected sum out to each member in turn. This traditional “merry-go-round” savings system is called *adaché* in the local Hausa language. This system does not require banks (which are often lacking or not easily accessible in rural areas), and there is no need for overhead costs for an office. Collection and disbursement of money is the task of a woman chosen by the other group members because they trust her.

Partners in PROLINNOVA–Niger discovered during a focus-group discussion with women in Dan Sage village that an *adaché* group of 20 women, called Lantarki (meaning “light” in Hausa), had changed the way they saved and shared money. They had heard that an NGO in a different part of Niger was encouraging a social credit system, and they decided to try out something similar themselves. Their new system consisted of collecting a somewhat higher and regular amount of savings from each member (500 FCFA or about 1 USD per week), giving loans to members who requested them, and charging 10% interest on the loan. Moreover, the group gave preference to the poorer women when deciding who would receive a loan. Each successful applicant received 5000–10,000 FCFA (10–20 USD) on credit, depending on her needs and the income-generating activities she proposed. She had to pay back the loan within a month, with interest. In this way, there was more money to be granted as loans to other vulnerable women. The women called this new system *asasu* or “treasure” in Hausa.

Development practitioners, researchers and customary authorities regard this endogenous institutional innovation by women as a promising way to improve the livelihoods of resource-poor farm families. For this reason, the Project for Promoting Local Innovation for the Development of Aguié (PPILDA) is now working together with Lantarki and other women’s groups to strengthen their capacities to: 1) manage funds in such local savings and credit systems; 2) make realistic plans to generate income; and 3) organise themselves better so as to create transparency and sustainability of the rotating fund. They are also documenting the process of participatory experimentation with this innovative approach to savings and credit and supporting cross-visits so that women’s group can learn from each other.

Saidou Magagi (PROLINNOVA–Niger coordinator) and Ekadé Roumanatou and Saley Kanta, (PPILDA Aguié)

Already during the ISWC programme in northern Ethiopia in 1997–2001, a central activity consisted of giving awards for farmer innovativeness in order to raise farmers’ self-esteem and to raise general awareness about farmers’ initiatives. The system that ISWC introduced of giving awards to innovative male and female farmers, as described below, was integrated into the regular activities of the Tigray Bureau of Agriculture and Rural Development (BoARD).

Celebrating local innovation in Ethiopia

To stimulate the discovery of indigenous innovations, ISWC–Ethiopia initiated a Tigray-wide contest. At first, the idea was that the development agents, senior students, university teachers and researchers would compete. However, we soon realised that the real winners are the innovators themselves. We therefore decided to give recognition to both the innovators and the people who discovered them.

The Head of the BoARD asked his staff to organise meetings in all rural municipalities to honour local farmers who had developed outstanding innovations that led to improvements in farming. The award procedure started with community meetings, where farmers described their innovations. Community members drew up criteria for ranking the innovations, but the award committee made up of

BoARD staff, university researchers and local administrators considered also other criteria. Because of this combination of internal and external criteria, awards were sometimes given to outstanding innovators with less social acceptance (e.g. women who dared to do something outside the norm, such as ploughing, which is traditionally a male domain). We tried to incorporate ways of giving social recognition and encouraging the spread of such innovations.

At district-level meetings, the BoARD gave prizes, such as farming tools, to the top male and female innovators selected in each village. As part of the ceremony, local people visited the winners' farms and saw their innovations. Each year, the BoARD organised a similar ceremony to honour the top three innovators in each of the four zones of Tigray Region. The zonal winners were invited to a ceremony in the regional capital, Mekelle, where they described their innovations and explained how they were sharing their new ideas with others. Regional policymakers, agricultural researchers and the ISWC–Ethiopia Steering Committee (made up of people from government agencies and NGOs involved in rural development in Ethiopia, also beyond Tigray) attended the ceremony. The prize provided by ISWC–Ethiopia to each regional winner consisted of a certificate as outstanding innovator, plus enough money to buy an ox. These ceremonies were covered by local news media and were featured in newspapers and on radio and television.

The prizes given to the researchers and development workers were, in contrast, more of a token nature: t-shirts and shoulder bags with a picture of a woman innovator, "Farmer Innovation" caps etc. In addition, ISWC–Ethiopia invited them to training courses and workshops, and helped them to publish articles about their activities in journals and to present papers at regional, national and sometimes international conferences.

Source: Fetien Abayet al (2001)

The country programme in Cambodia took a similar approach of giving awards to innovators. The fora on farmer innovation that the coordinating NGO, the Cambodian Centre for Study and Development in Agriculture (CEDAC), organised at grassroots and national level were designed to stimulate development workers to identify local innovations and to reward farmers for their creativity. This encouraged the farmers to continue their informal experimentation and development activities and encouraged other farmers to make also their innovations known.

Rewarding local innovation in Cambodia

In Cambodia, CEDAC organises fora on local innovation: in each year, about 20 grassroots-level fora in different locations involving farmers from nearby villages and one forum at national level. Usually around 40–60 farmers take part in a local forum. The PROLINNOVA Working Group selects the themes for the forum and organises a preliminary workshop to identify 10–15 farmers to present their innovations at the local forum. CEDAC staff, farmers and other partners set up criteria for selecting the best innovations, and the participants in the local fora use these criteria in making their judgements. The farmers who have developed

the three best local innovations receive a monetary award and a certificate from PROLINNOVA–Cambodia. With the approval of the farmers concerned, CEDAC publishes these innovations in its monthly *Farmer Magazine*.

CEDAC and other members of the Working Group meet to screen the winning innovations coming out of the local fora and invite about ten innovators to the national forum. Country programme partners assist these farmers in preparing their presentations, for example, using photographs, posters and drawings. In this case, the NSC develops the criteria that the forum participants apply when selecting the three best innovations at national level.

All farmers who present their innovations at local and national fora also receive a small token of appreciation for their efforts. Farmers who take part in these fora learn new ideas from their peers and are inspired by them. The development professionals who take part learn to appreciate local innovativeness and become more committed to supporting processes of farmer innovation and farmer-led joint experimentation.

Yang Saing Koma and Loek Sothea (CEDAC)

According to reports from Ethiopia and South Africa, innovative farmers also feel rewarded when:

- their innovations are depicted in posters and catalogues of innovations, with their names and sometimes photographs; they receive copies of the posters and catalogues that they can show to others; they are proud to see themselves given prominence in this way (see page 26);
- journalists from newspapers, radio or television come to interview them and report on their achievements in the mass media;
- other farmers and government officials – sometimes even a university president or government department head or State minister – come to visit their farms;
- they are given opportunities to visit other innovators on their farms;
- they are invited to workshops and exhibitions where they can meet with other farmers and still other sources of new ideas.

The people and organisations that are trying to promote local innovativeness consciously have this aim in mind when they invite farmers to show their innovations at regional or national meetings. For example, in the above-mentioned case when some NTH team members in Tigray became involved in organising an exhibition to promote agricultural technologies, they suggested that not only “modern” technologies but also the innovations developed by local farmers be displayed. Their intention was to make others aware of what farmers are doing and “to give them recognition and incentive for their knowledge-development activities and the service they are thus providing to their communities” (Hailu Araya, pers. comm. 2006).

To whom does new knowledge belong?

When recognising and celebrating farmers' innovativeness, issues of Intellectual Property Rights (IPRs) arise. First steps to deal with these are to understand how farmers perceive these rights and to stimulate reflection among development workers and farmers about how they can preserve a spirit of free sharing and prevent appropriation of knowledge.

In Ethiopia, farmers' concepts of IPRs derive from the fact that local people give higher value to innovations that benefit the community rather than just one individual (see Case 4 for a detailed account on farmers' perspectives). In Amhara Region, Yohannes GebreMichael noted that "innovation was not regarded as something that arose out of a vacuum but rather as something that was a further development growing out of common community knowledge ... a farmer is given recognition as an innovator not only if his or her creativity improves production and protection of the land, but also if the innovation is valuable to the community" (Yohannes 2001). At an international workshop on farmer innovation in land husbandry in Africa, held in Mekelle in the year 2000, the farmer participants were unanimous in their view that they did not want to block the flow of information, as this would block the flow of innovation, but they *did* want public recognition for what they had achieved (Mitiku *et al* 2000).

"[There is] a saying from my tribe: 'Knowledge is like fire which someone may get free from the neighbours'"

Yakobo Tibamanya (PELUM–Tanzania)

Among themselves and at international meetings, the partners in the different country programmes frequently discuss and struggle with the concept of IPRs. Within the PROLINNOVA programme as a whole, we are applying the principle of "copyleft" to the sharing of innovations. "Copyleft" uses copyright law to remove restrictions on copying and modifying published work and requires that the modified versions enjoy the same freedom. Whereas copyright law, by default, automatically restricts the right to make and redistribute copies of someone's work, a copyleft license ensures that everybody has the same rights to study, use, modify and redistribute both the work and derived versions of it, as long as the same license terms apply to all redistributed versions (*Wikipedia, 18 October 2006*). Conventional notions of IPRs that involve patenting hamper creativity and collaboration, whereas copyleft promotes these. The people who identify local innovations document them and obtain the innovators' permission to share the documents in catalogues, posters, databases, articles etc. By putting the information in the public domain, they try to prevent patenting of the innovations by others. By inserting a "copyleft" clause into a document on a local innovation, they are obliging anyone who modifies the innovation also to make it freely available to others.

Using this concept, the PROLINNOVA Oversight Group (POG) worked out initial guidelines for dealing with this issue, after seeking and receiving advice from specialists in IPRs¹, and shared the guidelines with all partners. These guidelines are “work in progress” and are subject to revision.

PROLINNOVA guidelines on documentation for free sharing of local innovations

If specific local innovations and experiments are documented/ fixed in word, photograph, film or in any other manner, the local innovators/ experimenters will be informed how the documentation will be used and will be asked for permission to use it in this way. The name of the innovator(s) and/ or experimenter(s) will be included in the documentation, unless these persons explicitly ask that their names not be disclosed but nevertheless give permission that the documentation be shared with others.

As this is extremely important in defensive publishing, the publication date (day, month and year) will be clearly shown on the first page of all publications posted on the PROLINNOVA website and country-programme webpages/websites. The month and year of publication will be printed on the cover page of all publications brought out by the PROLINNOVA programmes at international, national, regional (subnational) or any other level.

By documenting the information and making it available to a wider public, the PROLINNOVA partners – including the innovators themselves – agree to hold the information in the public domain. The information will be made accessible through the website (www.prolinnova.net), both under “Publications” and under the relevant country page. It is envisaged that, over time, each country or subregion of a country involved in PROLINNOVA will set up its own website for making information about local innovation available to the public, and that these websites will be linked to the international PROLINNOVA website and other relevant websites.

Any person receiving information from PROLINNOVA either directly or indirectly shall not claim property rights over it. All publications in print, film or on any other recording medium that describe specific innovations will include the following proviso: ***“Anyone may use the innovation described here and modify or develop it further, provided that the modified or further developed innovation or any follow-up innovation, of which the innovation described here is an element, is likewise freely available and any description of it includes this proviso and acknowledges the source of information.”***

Source: PROLINNOVA Guidelines No. 3 [www.prolinnova.net]

¹ With thanks to Peter Munyi, ICIPE (African Insect Science for Food and Health) and SEAPRI (Southern Environmental and Agricultural Policy Research Institute) (pmunyi@icipe.org) and Victoria Henson-Apollonio, CGIAR Central Advisory Service on Intellectual Property

Normally, the issues of ownership, recognition and sharing of information on local innovations are handled at the country-programme level, as was the case in South Africa.

South Africa discussion on rights to sell films and catalogues of local innovations

Partners in KwaZulu-Natal Province in northwest South Africa compiled and distributed a catalogue of local innovations (see Case 1 in Chapter 3). Another partner organisation in Limpopo Province in the northeast of the country had filmed local farmers' initiatives. In both cases, the organisations that produced the documents raised the question: "Even if we ask farmers' permission to publish their innovations in a catalogue or a video film, can we sell the catalogue or film?"

They asked this at a workshop in Limpopo Province in late 2005. The participants – including several farmers – agreed that a catalogue or film showing farmers' innovations could be sold if the price is only to cover production costs. It does not involve selling the actual innovations. At a follow-up workshop in Limpopo in March 2006, the participants discussed IPR issues further – and this discussion will continue. They stressed that:

- Key components in recognising local innovation are to document them and to acknowledge the first innovator; it is important to track the source of the innovation and to refer to the original innovator;
- If someone adds something to the existing innovation, that will be his/her new innovation;
- It is an individual's decision whether or not to share his/her innovation, to have it published and to have his/her name mentioned.

Source: PROLINNOVA–South Africa (2005), PROLINNOVA–South Africa (2006)

Already when the extension staff in KwaZulu-Natal Province of South Africa took on the assignment to document local innovations to be published in the catalogue, IPR issues were flagged. The workshop facilitators asked the participants to discuss with the innovators whether they were comfortable with sharing the innovation through a catalogue (see Case 1 in Chapter 3).

Also in the PID activities that follow the identification of local innovations – that is, when farmers, development agents, researchers and possibly other stakeholders are working together to develop the ideas further – they need to give attention to IPR issues. In Uganda, for example, the partners in experimentation sign a written agreement that spells out the responsibilities of each party involved. The guidelines drawn up by the Uganda programme for preparing agreements for joint experimentation include the following IPR clause: "It is acknowledged that this technology has been developed in the local context by farmer x and, whenever it is mentioned in future, due recognition is given to farmer x (the original innovator/community)".

One criterion for selecting innovations for further experimentation (see page 45) and recognition (see page 16) is, in many countries, the ease with which the innovation could be adopted and adapted by others. This clearly reflects the approach that partners have taken toward IPRs.

Documenting and sharing local innovations

Seeing or hearing about local innovation may not always result in believing, but could arouse the interest of those who are exposed to it. Documentation is one way of packaging information on innovations and innovation processes so that it can be shared with a large group of stakeholders, including farmers, development workers, researchers, policymakers and even politicians. Not only is it important to document the innovations such as new water-harvesting techniques or new ways to control pests, it is as or even more important to describe the *process* of innovation: Why did the innovator(s) seek new ways of doing things? When did s/he start? With whom? How did s/he go about it? The responses to these questions reveal the process through which innovations come to be. Documenting this process places the innovation in context and gives deeper insight for others who wish to enhance local innovativeness.

Often, it is outsiders who do the documentation, with lesser or greater inputs by the actual innovators. More recently, there has been a move toward outsiders supporting local people to do their own documentation, thus helping them tell their own stories in the form and manner they prefer. Partners in the country programmes have tried out different ways of documenting and sharing information about local innovation, as well as supporting farmers in doing their own documentation. These efforts could provide lessons for others to draw on. The partners have used various forms of documentation depending on the purpose, the audience or readership, the equipment and skills available, the cultural context, the coverage sought, the funds at hand and other considerations.

Catalogues

A catalogue is an inventory of innovations that is collected and recorded periodically or regularly for the purpose of sharing. Catalogues are a popular form of documenting information on innovations in several countries. The Ghana programme recently brought out a catalogue of innovations based on interviews with farmers made by extension agents in the south of the country (see page 14).

Similarly, the South African programme compiled two catalogues of local innovations (see Case 1 in Chapter 3 for a description of how the first one was made). Here, development workers, extension agents and researchers had a first meeting to discuss about the concept of local innovation and to design a format for collecting data on innovators and their innovations. They then went out and, during their regular work, recorded relevant information. They brought their findings to a second meeting. All the innovations presented were then collated in the form of a printed catalogue with text and photographs on 21 innovations (seven by women), mostly from KwaZulu-Natal Province (Villiers *et al* 2005).

After reviewing the first catalogue and reactions of stakeholders, the NSC revised the format for the second one to include more information about key

concepts (local innovation, participatory innovation development) and about the purpose of documenting local innovations. With each of the 21 innovations from six provinces (including 9 innovations by women and 5 by communities), the editors formulated issues for discussion to deepen understanding of local innovation and the important role that it plays in allowing rural communities to adapt to changing conditions (Letty et al 2007).

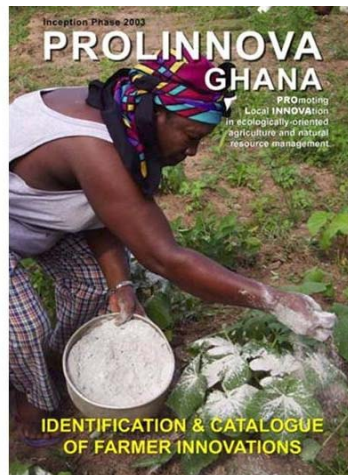
Catalogue of local innovations in south Ghana

Four members of the Core Team in south Ghana were responsible for preparing a catalogue of local innovations. After the initial round of identification, they selected approximately 25 innovations according to criteria such as usefulness and replicability.

They picked ten of the most interesting innovations for inclusion in the printed catalogue and organised field visits to these innovators. The team members collected further information by posing detailed questions to the innovators, observing what they were doing, and taking photographs of this. They then wrote the texts for the catalogue, trying to present each case as clearly as possible.

The printed catalogue consists of ten innovations, of both men and women, each with a short description of the innovation, and some information about the innovator and why he/she did it. Several photos accompany the text, making the catalogue attractive and giving the reader a visual impression of the innovation. The catalogue is now being distributed all over the country by partners in the country programme. This is creating overall awareness of farmer innovativeness and inducing other innovators to reveal what they are doing.

Source: Ruth Tagoe (2006)



Catalogue of local innovations prepared by PROLINNOVA—South Ghana

PROFIEET (Promoting Farmer Innovation and Experimentation in Ethiopia) was inspired by the South African catalogue to start up its own series of publications. In October 2006, it brought out the first volume of its *Catalogue of Farmer Innovations* (PROFIEET 2006). For each innovation recorded, this brings details about the farming system, the innovator's characteristics, and the motivation for and added value of the innovation. It includes photographs of ten innovations and innovators (eight men and two women), whose innovations range from generating hydroelectricity to mixing milk from different species of dairy animals in order to avoid spoilage on the way to market. Participants at the zonal workshops had selected these as outstanding innovations (see page 10).

Similarly, the programme in Sudan compiled several local innovations in the form of a booklet. These innovations had been identified by PROLINNOVA partners in their interactions with communities.

Posters

Another simple and visual method to document and share information on local creativity is by printing posters with photographs and/or drawings of the innovations, accompanied by a very short text. Thus far, the programmes in Uganda, South Africa and Ethiopia have produced such posters, which include photographs of the innovators and their names.

Using posters to acknowledge and promote local innovation in Uganda

As part of the process of documenting local innovations, staff members of Environmental Alert (EA) – the Kampala-based NGO that facilitates PROLINNOVA–Uganda – took photographs of them. They used some of the photographs to make posters on local innovations that the Core Team regarded as outstanding: one on using the tephrosia plant as an acaricide (to kill ticks on livestock) and one with several innovations that farmers were showing at an agricultural exhibition. EA commissioned a professional artist to design the posters, using the photographs and texts it provided. One thousand copies of each poster were printed in Kampala. Later, it prepared a more general poster on the work of PROLINNOVA–Uganda in a similar way; also 1000 copies of this were printed.

The Core Team members working with the farmers whose innovations were depicted delivered copies of the posters to them personally. The farmers were very proud to see their achievements documented in this way – especially to see that they, as the innovators, were central in the posters (not just their innovations) and that their names were given. The posters were also distributed free of charge to other farmers and to extension workers and policymakers. This was done by staff of agencies in the Core Team when travelling to the field and at events such as the national sharing meeting on promoting local innovation in 2005 and the national workshop on experimental design and assessment in 2006, as well as several other meetings attended by PROLINNOVA–Uganda partners. They used the posters during meetings with policymakers about integrating the PID approach into government institutions of research, extension and education. The programme

coordinator displayed the posters during international PROLINNOVA meetings in Uganda in 2005 and in Cambodia in 2006, as well as at key international conferences in Africa. Moreover, the posters are now displayed in community resource centres, schools, the District Department of Agriculture in Kabale and Makerere University in Kampala.

The posters aroused the curiosity of many farmers, who began to ask questions about the innovations and become more involved in discussions on the process of innovation. This form of documentation stimulated farmers to think of other innovations that they knew about or had developed themselves. Also extension workers began to bring further examples. Thus, the posters also served as a tool to help identify still more local innovations.

Ronald Lutalo (Environmental Alert)

Magazines

A wider yet specific readership can be reached through magazines. CEDAC, the NGO that coordinates PROLINNOVA–Cambodia, publishes a farmer magazine *Kasekor* in the Khmer language. Through this magazine, the country programme has been able to circulate articles on local innovations widely to both farmers and development professionals throughout Cambodia.

Making farmer innovations known through a farmer magazine in Cambodia

Generally, extension workers tend to transfer technical messages from researchers to farmers, and researchers make no effort to assess and document farmers' existing experiences, practices and innovations, even though other farmers could use these to improve their agriculture and NRM. Often, the practices developed by farmers are more appropriate, as they rely mainly on the use of locally available resources.

In January 1999, we at CEDAC started publishing a monthly magazine *Kasekor* in the Khmer language. This documents and disseminates information on farming practices and farmers' experiences in crop and animal production, aquaculture and food processing. It also publishes social and organisational initiatives of communities related to agricultural livelihoods. The editorial team for the magazine consists of seven CEDAC staff members, who decide on the contents. The team works closely with government agencies, NGOs and farmers in sourcing relevant articles. CEDAC provides a small incentive of USD 5 per article to authors.

Thus far, we have published 90 issues of the magazine with more than 700 articles on farmers' experiences and innovations, written by farmers as well as development workers. More than 200 government agencies and NGOs subscribe to the magazine and distribute it further throughout Cambodia. In the beginning, the magazine was given to farmers free of charge, but now it is sold to them at a subsidised price of 200 Riel or 5 US cents.

We conduct annual reader evaluations using a questionnaire that is sent together with the magazine to subscribers. Readers' feedback shows that the information is useful to them. We supplement this form of evaluation by interviewing numerous farmers who read the magazine and asking them how they use the information. Many farmers have taken up practices or innovations that were described in the magazine, particularly to do with keeping poultry, raising fish or frogs, and ecological aspects in rice farming.

Yang Saing Koma and Pean Sokha (CEDAC)

Fora

The country programmes in Cambodia, Ethiopia and South Africa have given local innovators an opportunity to share their experiences with others through local and national fora such as agricultural expositions, fairs etc (see Case 4 in Chapter 3).

In Ghana, the Ministry of Agriculture organised an exhibition on World Food Day in 2005 and gave farmers space to present their innovations. In addition, in November 2005, PROLINNOVA–Ghana organised a farmer innovation workshop in the south (in Koforidua) and invited 25 innovators from Central, Western, Volta and Eastern Regions to exhibit and explain their innovations to the general public. This gave the innovators a chance to share their ideas with other farmers, government agencies, development organisations and the press.

The programme in Nepal took advantage of fora organised by other agencies as opportunities to make contact with a larger number of local innovators and to document their innovations.

Using farmers' fora as opportunities to document innovations in Nepal

In June 2005, the Parbat Chamber of Commerce and the Micro-Enterprise Development Programme organised an exhibition in Pokhara on indigenous technology. The main aim was to encourage and conserve indigenous technologies, tools and practices. There were altogether 41 stalls from 20 districts. At two of the stalls, farmers linked to PROLINNOVA–Nepal displayed their innovations related to millet products, non-timber forest products, taro products and a paddy thresher *cum* puddle/ planking machine. The programme also took advantage of the presence of so many local innovators to document 22 additional innovations during the exhibition.

Source: PROLINNOVA–Nepal (2005)

Radio

Some of the country programmes are using radio as a medium for sharing farmers' practices and innovations. For example, LI-BIRD (Local Initiatives for Biodiversity Research and Development) – the NGO that coordinates the programme in Nepal – has been using the facilities of a local FM radio station to air a daily half-hour programme for and with farmers.

LI-BIRD's radio forum for discussion and sharing in Nepal

FM radio broadcasting has taken a firm foothold in Nepal in the last decade. Thanks to cheap Chinese technology, nearly every rural home has access to an FM radio that runs on dry-cell batteries. Listening to FM radio has become very popular among the rural population. As one of the first NGOs in the agricultural sector to capitalise on this development, LI-BIRD started in 2001 to work together with Annapurna FM station in developing a radio programme mainly for farmers. We chose this particular station because it is, like LI-BIRD, located in Pokhara and because it has a wide coverage.

The programme is called "*LI-BIRD Ko Chautari*", which means "LI-BIRD's Forum for Discussion and Sharing". It focuses on biodiversity, sustainable agriculture and NRM and reaches the general public in 13 districts in central and western Nepal, paying special attention to farming communities. We considered the daily routine of farming families when setting time slots for broadcasting: Wednesday and Sunday evenings from 7:30 to 8:00 pm, after the half-hour Nepal news bulletin. The average monthly costs for airing the programme twice a week are around USD 250 (Nepal Rupees 16,000).

A technical team of five staff members (four men and one woman) at LI-BIRD is responsible for the programming and selecting the topics. They bring in ideas for topics that farmers share through their letters to the radio station. Broadcasts are in the local language. Depending on the topic for discussion, the team engages different stakeholders, including farmers, who share their views and experiences. LI-BIRD pays for the transport costs of farmers who travel to the radio station to take part in live broadcasts.

The programme is subdivided into segments such as "discussion with farmers", "issue-based discussion", "responses to farmers' queries", "news related to agriculture" etc. Although it does not yet have a segment dedicated specifically to local innovation, it has often covered issues related to IK, local innovation and IPRs.

Judging from listeners' feedback, the programme has become quite popular. Each week, the radio station receives as many as 45 letters from listeners. A survey of listeners revealed that they appreciate greatly the local content and the active participation of farmers and other stakeholders such as government and NGO staff and policymakers in the programme. They also say that the time slots allocated for the programme are very convenient to them.

Having learned the ins and outs of FM broadcasting, LI-BIRD is now ready to use this medium to share widely the experiences of local innovators and the process of local innovation.

Anu Adhikari and Suman Manandhar (LI-BIRD)

In north Ghana, the University for Development Studies, CARE International and a local NGO called Centre for Cosmivision and Indigenous Knowledge (CECIK) have used community radio to document and disseminate farmer-level innovation on bushfire management.

Communities in North Ghana make their own radio broadcast

Bushfires are a serious threat to livelihoods in north Ghana. During our interactions with communities in the Bushfire and Rural Livelihood Management Project, we discovered several local innovative practices for bushfire management which could be useful to others. We were aware that radio was an effective channel to share messages, but wanted to move away from conventional radio, in which journalists do most of the scripting and programming, to community radio, in which the people concerned are more involved and have more say in the contents and presentation of the programme. We studied how professional journalists make radio programmes and used this knowledge to design a programme with more community orientation. We considered ourselves as facilitators of this process.

As for developing the content for the programme, we held group discussions with a cross-section of the community: traditional authorities and members of the bushfire management committee, the volunteer fire squad and women's and youth groups. Together, we identified the thematic areas to be covered. We used PRA (Participatory Rural Appraisal) tools to elicit the issues and concerns to be raised within these themes. Four thematic areas emerged from the discussions: environmental management practices, stakeholder participation in managing bushfires, policy enactment and implementation, and other related issues. Within these themes, the community discussed how local knowledge, practices and innovations are applied to manage bushfires. We recorded the discussions, played the tapes back to the group, and edited the scripts based on feedback from group members.

The programme was aired in three languages through three local radio stations twice a week in the early evening (between 4 and 5 pm) over a period of six months. Farmers had suggested these times, but later said that twice-weekly broadcasts were not enough; they should be daily. Another problem was that the programme was broadcast in only three of the 26 local languages. This meant that many people in the region could not understand them well.

A recent evaluation revealed that the controversy about who is responsible for starting bushfires – the men or the women – has ceased. Men identified as benefits of fire management that there is more grass for livestock, less loss of animals wandering far, more income from their fruit trees and gradual improvement in soil fertility for growing cereals. Women identified different benefits: more unburnt firewood that they can sell, more vetivar grass available for weaving, more sheanuts to make oil, and greater availability of wild plants for nutritional and medicinal purposes. Now the farmers are more determined than ever to intensify their fire-management regimes.

However, because of the costs involved, we have not used community radio to promote any other innovations beyond those concerned with bushfire.

David Millar (University for Development Studies / CECIK)

Participatory video

The PROLINNOVA programme, in collaboration with the COMPAS (Comparing and Supporting Endogenous Development) programme, made some initial attempts to pilot the use of participatory video (PV) as a way to document and share the experiences of innovative farmers. Having seen the potential of PV to enable people to tell their stories directly and to have control over what they wish to say, partners in Ghana introduced it to several farmer groups. In the second case example in Chapter 3, Joy Bruce describes how she helped a farmer group document their innovation through PV, and notes some of the advantages and limitations of the method.

Digital images and PowerPoint

In Bolivia, AGRECOL–Andes, a regional information centre based in Cochabamba and one of the organisations involved in the new PROLINNOVA–Andes programme, has been building the capacity of farmers to document their experiences with the use of digital cameras. Digital photography has several advantages. The cameras are simple to use and it is quite easy to make a high-quality photo. Neither film nor development of film in a laboratory is needed. Images can be seen almost immediately and can be duplicated at no extra cost. Having chosen the technology, AGRECOL came up with a participatory method to involve the whole community in the documentation process.

Digital technology supports farmer-led documentation in Bolivia

We in AGRECOL–Andes aim to share information and to build the capacities of different actors in ecologically-oriented agricultural development. This includes supporting the analysis and documentation of field experiences, especially local initiatives. Documentation based on images and words allows communities to communicate and exchange information with each other, and all the more so if this is done in the local language and from the community's own perspective.

In the last few years, we have organised many exchange trips for farmers from one community to visit another. During these trips, AGRECOL staff saw that some farmers brought cameras to be able to take back images of what they had seen to share with family and friends. Photographs were obviously very important to farmers, often stimulating conversations and promoting reflection and debate. On the basis of our experience and this specific social and cultural context, we decided to introduce digital cameras as a means of documenting farmers' experiences. We wanted the farmers to become the authors of their stories by taking an active role in the documentation. This is the procedure we have been following.

First, the community selects several people to be trained to facilitate the documentation process. We give them a basic training in computer skills and handling of digital cameras. Then the process of documentation begins. The community selects what it wants to document, and all members involved in this relate their experiences. At a community-level workshop facilitated by an AGRECOL

staff member, they work these experiences into a script they can all agree on. After reaching agreement, various community members use digital cameras to make images to support the script. Working together with the local facilitators and using computers, the community members gather this information as “audio files” (files in which short video clips and records of interviews are saved). The local facilitators put the images together in a PowerPoint presentation, and AGRECOL staff help in adding the final touches. The facilitators then present the documentary to a large number of community members for their comments, corrections or additions.

The communities use their PowerPoint presentations to share experiences with other communities, as training material, as a basis to print materials for product marketing and to work out a kind of insurance system based on local climatic indicators. There are good signs of community commitment and interest. Over the last two years, five communities have acquired their own equipment (computer and camera) with support from AGRECOL, and have paid up to half of the cost of the computer themselves.

We have seen that a documentation process based on images is relevant for farmers and works well, no matter what the culture, language, age or formal education of those involved. It can be adjusted easily to different themes, needs and specific interests and – at the same time – facilitates a collective approach. This method of farmer-led documentation gives farmers more access to information, as well as possibilities to store and spread it. More importantly, it helps them strengthen their communication abilities.

Source: Anne Piepenstock, Orlando Arratia and Luis Carlos Aguilar (2006)

Photographs

Although digital technology is becoming increasingly widespread, the use of still cameras has still not gone out of fashion. In fact, it was farmers themselves who requested the facilitators of a training workshop on local innovation in South Africa to teach them the basics of photography so that they could document their own experiences. In response to this request, PROLINNOVA–South Africa organised a course for farmers in basic photography, held immediately before the follow-up workshop on PID. The farmers have begun using their newly acquired skills, as described in Case 3 in the next chapter.