# Combining farmers' documentation and adult literacy in Niger

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National systems of agricultural research in the Sahel may increasingly refer to participatory approaches, but they still follow mainly a transfer-of-technology approach. Researchers are expected to generate and document technologies, which are then passed on by extension agents to farmers. This approach does not foster farmers' creativity nor does it encourage their own initiatives to develop, document and share new ideas. It also ignores the considerable agro-ecological variability in the Sahel, and therefore sometimes leads to development of technologies that are inappropriate and inaccessible, especially for small-scale farmers. In the meantime, farmers have taken their own initiatives to adapt to challenges to their livelihoods. Smallholders have immense experience and traditional knowledge and have developed their own innovations, but these are seldom documented and shared – and therefore could be lost.

Since 2004, Prolinnova-Niger has been promoting local innovation and participatory innovation development (PID) for sustainable natural resource management. Prolinnova-Niger partners, including extension agents and scientists, support smallholders in further developing their own innovations through PID. In 2008, we started to pilot a process of farmer-led documentation (FLD) with the aims of: i) building capacities of innovative farmer groups to document their joint experimentation on their innovations; and ii) creating opportunities for learning within the community and for exchange between communities (horizontal sharing) and with extension agents and policymakers (vertical sharing). In FLD, farmers document the innovations they are working on and share their views about the innovations through group discussions and interviews. They document their problems as well as their knowledge and experiences in trying to solve these problems. Here, we describe the outcomes, challenges and lessons learnt in facilitating FLD in Niger and suggest how the FLD process could be strengthened.

### Piloting FLD where local innovations were identified

In 2006, Prolinnova-Niger had fielded an interdisciplinary team composed of two researchers, two government extension workers and an NGO staff member to make an inventory of local innovations. It found four interesting innovations (fish smoking in a local oven, fertilising cassava with millet glumes, fattening cattle with cassava tubers and local extraction of natron) in Boumba Kaina, Takalafiya and Garin Bourtou villages. These innovations appeared to bring benefits to both men and women, be easily reproducible by other farmers and have potential for further improvement. In 2007, Prolinnova-Niger started supporting joint experimentation on these innovations, encouraging extension agents and researchers to work with the local innovators in refining and adapting their innovations.

Some farmers involved in these activities expressed interest to document their innovations and experiences in joint experimentation in their own way and to share outcomes with others. The farmers frequently asked to see photographs taken of them, so that they could show these to others. They wanted Prolinnova-Niger to provide cameras with which they could record their own activities. In response to this demand, Prolinnova-Niger piloted FLD in the villages of Boumba Kaina, Takalafiya and Garin Bourtou, building on the existing activities and contacts.

The three villages are located in Dosso Region in southern Niger. Boumba Kaina is in Falmey District, Boboye Department, about 200 km from the capital city Niamey. Takalafiya in Dioundiou District and Garin Bourtou in Yélou District are both in Gaya Department, about 300 km from Niamey (see Figure 1). In this part of the Sudano-Sahelian zone, the average rainfall is 600-700 mm per year. In all three villages, the main sources of income in order of importance are crop production (mainly millet, sorghum, beans, groundnuts and cassava), fishing and livestock-keeping (cattle and poultry). Boumba Kaina is particularly well known for its fishing activities.

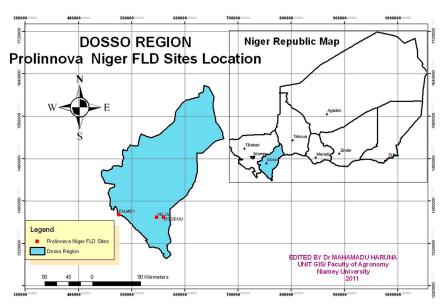


Figure 1: Location of Boumba Kaina, Takalafiya and Garin Bourtou villages in Niger

Source: Mahamadu Haruna, Geographic Information Systems Unit, University of Niamey (2011) with Ousmane Ibrahim, CDLD Gaya

#### Joint experimentation and literacy training

The farmers involved in the joint experimentation found it difficult to document and share systematically information on this work in their own ways. The conventional modes of documentation used by Prolindova-Niger (reports, PowerPoint presentations, booklets etc) in French and English were inaccessible to most farmers. Their involvement in joint experimentation stimulated the farmers' interest in learning how to read and write. In Niger, most adults did not receive basic education when they were young as, at that time, there were few schools in the villages and, even where there were schools, many children could not attend because their families lacked the necessary resources.

Starting in early 2008, PROLINNOVA-Niger helped organise literacy classes in the three villages, involving so-called "farmer trainers" (paysans animateurs), villagers who can read and write. The Gaya Inspection of Adult Literacy trained four farmer trainers – one of them a woman – to teach literacy in these villages. The classes, which ran for three years, empowered farmer innovators to document and share their innovations and thus helped preserve the local dynamic knowledge. The classes differed in terms of gender composition: both men and women attended in Boumba Kaina, only men in Takalafiya and only women in Garin Bourtou. The literacy training in Boumba Kaina was in the Zarma language, while the training in the other two villages was in Hausa. With support from Prolinnova-Niger, farmers built two simple classrooms in Takalafiya village to create better conditions for the training. In each village, 25 farmers were trained; of the total of 75 trainees in the three villages, 40 were male and 35 female. As they shared their skills with many others through the interactions in joint experimentation, the impact on literacy was even more widespread. Box 1 gives an example of the impact of the literacy training.

#### Box 1: Impact of literacy training on farming

In Boumba Kaina, Mr Zakari Amadou, a farmer who had learned to read in the local language Zarma, read about several improved techniques of rice farming in booklets provided by the Boboye Inspection of Adult Literacy. He then tried out some of these techniques. His rice farm developed well and was so green so that it attracted the attention of other farmers. He doubled his rice production in 2010 compared to previous years. In late 2010, during a feedback meeting in the community attended by a monitoring and evaluation team made up of scientists and development workers from Niamey, Gaya and Boboye, he spontaneously stood up and reported on his success in rice farming. When asked whether he used fertilizers or improved varieties, he replied: "The secret behind the increased yield of my rice was my knowledge to read and write". He felt very happy because, as he said: "I am now able to read labels of medicines and always pay attention to the production and expiry dates of medicines before buying them".



Booklets for community library in Boumba Kaina (photo: Saidou Magagi)

This approach of linking literacy training to rural development efforts drew wider attention, and the Boboye Inspection of Adult Literacy now offers literacy training in the area. In 2010, the Inspection further encouraged this training and the related FLD activities by providing a community library with over 250 booklets, chalk and notebooks to Boumba Kaina. Similarly, the Gaya Inspection of Adult Literacy provided 40 booklets to the Takalafiya community library. These community libraries are managed by elected farmers from among the trainees in literacy and FLD.

## Introducing FLD to the farmers

Building on the literacy training, it was easy to introduce FLD to the farmers. The Prolinnova-Niger team created initial awareness in the villages during meetings in mid-2008. We stressed that FLD could use two types of methods for documenting and sharing knowledge: traditional methods (theatre, use of traditional wrestling and weekly markets as communication channels) and modern methods (photos, farmer magazine, participatory video etc).

In December 2008, we organised a three-day workshop in Boumba Kaina: two days were devoted to FLD and one day to managing farmer groups. Bachir Harouna Djibo, a cameraman and photographer from Fara'a Rural Radio, and Doukia Dobi, Head of the Cooperative Action and Rural Associations Promotion Service of Gaya, gave facilitation support. Food, accommodation and other logistics were organised by three local farmers – Abdou Mamane, Abdoulaye Ibrahim and Mrs

Ibrahim Maidaria Gomna – after their offer to organise this won over the offers from the other two villages. Apart from farmers from the three villages, also farmers from Torodi District and stakeholder organisations from Niamey, Gaya and Birni N'Gaouré attended the workshop – in total, 30 participants, including 15 women.

The workshop started with an introductory session to brief participants on the Prolinnova international network and on Prolinnova-Niger as well as on PID, local innovation, multi-stakeholder partnership, and the principles of FLD. This was followed by practical training in taking photos and making videos. Considerable attention was given to camera use and maintenance, such as placing batteries on the indicated polarities, removing batteries when the camera would not be in use for a long time, changing batteries regularly, keeping the camera out of the reach of children, and protecting the camera from dust and moisture.

Four farmers from the villages also received hands-on practical training in making video films. This was to stimulate participatory video (PV), a tool that seeks to ensure that community members, not outsiders, control video-making (Bruce et al 2004, Bruce 2007, Lunch & Lunch 2006).



Practical training in using a digital camera (photo: Saidou Magagi)

The participants were then divided into three groups, and each group received a combined photo/video digital camera to practice with. The groups were asked to try making photos and video films on the joint experiments underway in the villages. They went out into the field and made photographs and videos, including interviews by and with farmers about their innovations and their feelings about Prolinnova.

That evening, as part of an information market on farmer innovations and results of joint experimentation, the farmers' films and digital photos were viewed on television by all workshop participants and villagers in Boumba Kaina. The FLD facilitators, farmer trainees and other farmers – including village women and children – commented on the farmers' documentation. Many farmers were surprised to see themselves talking well – or making some mistakes. It was a wonderful evening as we observed the great interest and awareness of the FLD course participants and the other villagers.

The following day, each of the three farmer groups was given a combined photo/ video camera and a photo album to use in their villages. The agenda of the session included discussions about how the equipment would be used by farmers as well as by others and how it would be managed; the participants arrived at clear modalities and rules. The final session focused on planning the FLD pilot work over the next months. The farmers decided to focus on three forms: photographs, videos and a Farmer Innovator Magazine — a magazine with stories by farmers for farmers in two of the local languages, Hausa and Zarma.

After the workshop, the film clips and photos taken by the trainer and the trainees were uploaded on computers by the FLD facilitators and were edited in Niamey with the support of professionals. CD-ROM copies were made and distributed to each of the three groups of villagers and to the institutions that had attended the workshop.

The FLD workshop raised awareness, capacitated and energised farmers to document their innovations and to share their experiences with each other and with research and extension staff. It was a challenge for the farmer group of Boumba Kaina "Banda Guiara Rayu waka" and Prolinnova-Niger to co-organise such a national workshop in a remote area with limited facilities. The success of this workshop encouraged the farmer group in Takalafiya to consider hosting the next Prolinnova-Niger workshop locally.

### Farmer management of the equipment

The management of the cameras as agreed at the workshop is an example of effective multi-stakeholder collaboration at community level. Each group selected a farmer leader – the local farmer literacy trainer – to keep the camera. The leaders were also expected to record minutes of community meetings, document selected innovations and ideas, and do local monitoring and follow-up of FLD activities. Development agents and municipality counsellors were allowed to borrow the camera from the nearest farmer group on presenting a written letter to the president of the group, who then notified the camera manager and other group members. The local development agents also provided guidance, training and follow-up to the farmers' documentation activities. Prolinnova-Niger facilitated overall monitoring and follow-up of the agreements made and supported photo printing and film editing.

The farmer groups agreed that the cameras could also be used by individuals to offer private paid services. They agreed on a price for using the camera in this way, with the money earned being kept by the group treasurer. In 2010/11, the farmers responsible for managing the cameras did take private photos of naming ceremonies, gatherings, newborn babies etc, but Prolinnova-Niger has not yet printed the photos and returned them to the farmer photographers. Prolinnova-Niger was responsible for printing the photos and editing the films during the pilot phase, but the aim is that – in future – the farmer groups would raise funds by selling privately commissioned photographs and video films as a business.

PROLINNOVA-Niger gave an "FLD computer" to the Gaya Departmental Direction of Rural Development (DDRD) not only for uploading and printing farmers' photographs and videos but also to strengthen the capacity of the local partners, including farmer groups, to write reports on the Prolinnova-Niger joint experimentation processes, FLD and their other work.

#### FLD in practice

In the FLD process, the farmers indeed took the lead. The roles of Prolinova-Niger consisted of networking farmer innovators, providing advice for and monitoring the use of the three cameras and the computer, editing farmer-made videos, technical production of the *Farmer Innovator Magazine* in the local languages Hausa and Zarma and translating it into French (as well as English for international Prolinova meetings and publications). All other work, including the dissemination of outputs and the sharing of farmer experiences through the Boumba Kaina community radio and the Germany-based international radio station Deutsche Welle, were 100% farmers' initiatives.

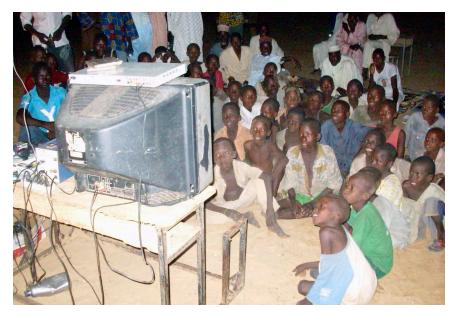
#### Farmers taking photos and video films

After returning home from the workshop, the three farmer groups took pictures of local innovation and joint experimentation and put these into the three community photo albums. The group leaders keep these for internal records and to be used for advocacy by the three villages. For example, the Takalafiya group took photographs of joint experiments on growing cassava using millet glumes and on cattle fattening using cassava tubers, and of the process of literacy training and farmer innovators' days. Over the period 2008-10, a total of 200 pictures were processed by the three FLD camera managers.

The farmers trained in PV organised their own filming. Farmers in Boumba Kaina made a film on fish smoking, the group in Takalafiya made one on cassava and the women's group in Garin Bourtou made one on local extraction of natron. Each film showed both the process and the outcome of the joint experimentation in the village. The films were edited in the Hausa language by professionals in Niamey.

#### Horizontal and vertical sharing

Some months later, the Prolinnova-Niger team brought the edited films back to the villages to be viewed by the film-makers (the farmers) and their communities. The films were also viewed at night after the Farmer Innovators Day held in Takalafiya village in 2009. This event was organised by the newly established Fasaha Innovative Farmers Union, based in Gaya, with support from Prolinnova-Niger and local partners: the DDRD, the Inspection of Adult Literacy and the local NGO Contribution to Sustainable Local Development (CDLD). A large crowd of farmer experimenters and villagers, including many youth, attended. The film showing helped increase awareness about and confidence in the joint experimentation and the partnership that grew out of the collaboration. During the Farmer Innovators Day in 2010, the farmers trained in PV organised the filming of the activities themselves. Prolinnova-Niger arranged that a CD-ROM of their video film be made, coordinated by the Takalafiya FLD group.



Showing farmer videos at night (photo: Saidou Magagi)

Farmer innovators from Boumba Kaina are using the local community radio, Dallol, to share their innovations and achievements. A journalist from the radio station was trained during the 2008 FLD workshop. The farmer groups and radio manager make a weekly broadcasting schedule. For example, one woman innovator, Mrs Ibrahim Maidaria Gomna, has spoken several times on the radio in Hausa and Zarma about her innovation of smoking fish in a "banda", an oven made of local materials (see also Saidou et al 2010).

Success in documenting experiences through FLD also led to interest from elsewhere. The Deutsche Welle interviewed the president of the Fasaha Innovative Farmers Union, Mamane Sani, in Hausa about the innovation in cassava production using millet glumes. He said: "I felt very happy and honoured when, after some days, I received calls from neighbouring villages and from my friends and even from farmers in Nigeria". The link with the media contributed to sharing and promoting local innovation and raising awareness of farmer-led research in Niger.

PROLINNOVA-Niger has used the PV films and copies of the farmers' photos extensively. We showed them during our team meetings, during PID training for another international research project, at the Prolinnova International Partners Workshops (e.g. Saidou et al 2009) and during the 5th Agriculture Science Week and FARA General Assembly in Ouagadougou in 2010 etc. After a Prolinnova-Niger team visiting Ghana in 2009 shared our FLD work, the Ghanaian farmers with experience in joint experimentation and FLD wanted to introduce literacy training in their own villages to help them write, read and document in their own languages.

#### Farmer Innovator Magazine

The Prolinnova-Niger team regards the *Farmer Innovator Magazine* as a potentially powerful channel for farmers to share their experiences in their own words. It was set up to encourage the adult literacy training. As the staff of the Gaya Inspection of Adult Literacy had worked with this approach elsewhere, it strongly supported the idea.

As a follow-up to the 2008 FLD workshop, in a meeting in early 2009, the local partners and the National Steering Committee of Prolinnova-Niger agreed on guidelines for producing the magazine and set up committees for writing draft articles (at village level) and for reading (by local partners) and editing them (by a national committee). The texts were to be written by farmers and farmer groups in their languages and sent to the Inspections of Adult Literacy of Gaya and Boboye, which would coordinate the local-level committee for reading, corrections and approval. The approved text would then be sent to the Prolinnova-Niger coordination in Niamey for further checking and approval, which then would take the text to the National Director of Non-Formal Education and Adult Literacy for final corrections and printing.

The first issue of the magazine was produced according to this procedure in 2009 and distributed widely. In this issue, farmers reported on their innovations and achievements and the impacts of Prolinnova-Niger in improving their livelihoods, strengthening their capacities and empowering them. Box 2 gives an example of an article published in the magazine by the Takalafiya farmers experimenting with millet glumes to fertilize cassava. Only 10% of the magazine's content was by non-farmers: an introductory note by the Prolinnova-Niger deputy coordinator and a way-forward note by the National Director of Non-Formal Education and Adult Literacy. In making the magazine, various partners brought in their own resources; this allowed low-cost production. However, the procedure is quite complex and,

when one or two steps in the chain become weak, the process is delayed. A second issue of the magazine has not yet appeared. The Prolinnova-Niger partners realise that we need to review and streamline the procedure.

# Box 2: Article by Takalafiya farmers for the *Farmer Innovator Magazine* (translated from Hausa)

In 2006, Prolinnova-Niger carried out a survey of local innovations. During the national workshop organised by this programme, farming cassava with glumes of millet was selected as an innovation to be developed and promoted after its experimentation in partnership with researchers, government technical services, NGOs and farmer innovators and experimenters of Takalafiya in 2007. The objectives are: i) to determine the appropriate amount of millet glumes to be applied per hectare; ii) to assess the socio-economic impacts of fertilising cassava with millet glumes; iii) to evaluate the processing and eating quality of the tubers; and iv) to document and promote outputs and impacts.

Now, we have learnt a lot through on-farm joint experimentations on uplands and lowlands with the aid of this programme. We are getting very good tubers of cassava and our capacities are strengthened.

The main steps are: clearing the land, ploughing the land using animals to prepare for cultivation. During the wet season, we look for good planting materials and plant them. When weeds grow, we clear them and so on. After weeding, we apply the glumes and level them properly. This is done during the dry season and we wait for the next wet season. After the rains have set in, we still continue to control the weeds. And it is good to plough at least twice during the wet season before harvesting.

The quantity of glumes to apply must be known before spreading them over the ground. The amount to apply depends on the land area. For example, if the area is one hectare, you have to apply 1.5 t of glumes. In order to differentiate between cassava production with and without glumes, we conducted field experiments with 0.25 ha with glumes and another 0.25 ha without glumes. Six farmers conducted the experiments: three on upland and three on lowland. At harvesting, we got 18 bags of cassava tubers per 0.25 ha of land with glumes and 14 bags of tubers in the area without glumes. This means we have got a difference of four bags. Also, the cassava tubers produced on the area with glumes were better developed and more expensive in the market than the ones produced in the area without glumes. Also it is much easier to harvest in the area with glumes than in the area without glumes. The farmers saw that the glumes reduced the level of salt in the tubers. It is preferable to harvest the cassava in August and to plant cassava cuttings for the next season.

The monitoring and evaluation is done at different levels: i) village level by farmer monitors and experimenters; ii) local level by agricultural extension workers; and iii) national level by the Prolinnova-Niger team. Each year, at harvesting time, Prolinnova-Niger organises participatory monitoring and evaluation. Other farmers, mayors and extension workers are invited. Results always show the difference: cassava production with glumes is better than without glumes.

#### Storytelling

The farmer magazine and the literacy training on which it was based encouraged a traditional form of "documentation": storytelling. Young boys and girls of Takalafiya village and elsewhere have always learned from elders through discussions and storytelling. When the Farmer Innovator Magazine was launched in 2009, a farmer literacy trainer combined his new skills and the new communication channel with the storytelling tradition and wrote a brief history of his village in Hausa. It was published in the first issue of the Farmer Innovator Magazine (Box 3). This not only raised awareness about the village history but also linked it with the innovation in farming cassava with millet glumes and the role that cassava played in years of drought and food insecurity.

# Box 3: The story of Takalafiya captured for the *Farmer Innovator Magazine* by Mamane Sani

The village of Takalafiya is situated in the southern part of Dioundiou District in Gaya Department, Dosso Region. This village was created in 1898 in the search for agricultural land. These are the chiefs or people who led the village:

- 1st: Sir Umaru Tinau from 1898 to 1906
- 2<sup>nd</sup>: Sir Saidu Umaru from 1906 to 1908
- 3<sup>rd</sup>: Sir Halidu Tanimun from 1908 to 1965
- 4<sup>th</sup>: Sir Zada Halidu from 1965 to 1997
- 5th: Sir Ibrahim Halidu from 1997 to 2008
- 6<sup>th</sup>: Sir Umaru Ciso from 2008 to 2009
- 7th: Mamane Ibrahim from 2010 to today.

When the village was created, it had only 120 people. In 2008, the village population was 2076. The people of the village are of the Hausa ethnic group and are living peacefully with other neighbouring ethnic groups, especially Zarma and Fulani. When the village was created, it was dry for seven years, during which none of the heads of families got even seven bundles of millet (less than 100 kg of millet grain) but they lived from cassava tubers. This cassava production has made the village known to the rest of the world. The people of this village are farmers and livestock-keepers.

There is thus a strong integration between the joint experimentation activities, the literacy training, the subsequent FLD piloting and the community libraries: the farmer literacy trainers, the farmers managing the digital cameras and the farmers managing the libraries were all trained during the FLD workshop; the farmers trained in FLD manage the libraries; and the libraries hold information and records on FLD and on local innovation and PID, as well as the digital camera, copies of the *Farmer Innovator Magazine*, the edited videos, booklets and brochures. This integration has helped create a strong local capacity and ownership of all the activities.

#### The future of FLD in Niger

In 2010, when the FLD pilot ended, the villages' photo albums were full. The cameras are still managed by farmers, who continue taking pictures of and filming PID processes. The FLD computer continues to be used by local partners, including farmer cooperatives and the Fasaha Innovative Farmers Union in Gaya, for word processing, printing documents and making PowerPoint presentations. Thus far, the farmer groups have not generated funds through FLD to be able to sustain the process. They still expect Prolinnova-Niger to print photos for them.

Now, in 2011, it is too early to make a conclusive statement as to whether the farmer groups in the three villages will continue with (parts) of FLD and the tools introduced and, if so, how. But it is positive to note how the farmers have developed locally embedded mechanisms and rules to use and manage the FLD equipment and that these mechanisms include plans to generate funds locally through night-time video screening, paid photography services, and selling photographs and PV films on CD-ROM. From this, it is a small step for the farmer groups to engage in internal weekly savings and credit activities to mobilise more funds locally, and this not just for FLD.

The links established and the formal involvement of relevant local organisations in the FLD process is another important factor that contributes to continuation of FLD at the local level. This includes the link with the Inspection of Adult Literacy and the community libraries, the cooperation with local radio and the support of the government technical services as well as the local NGOs. Most of this is there to stay.

After the successful pilots with FLD, Prolinnova-Niger partners are now able to promote the approach in other projects. For example, the Innovation Africa project focused on "bottom-up" policy development for food security has shown interest in using the approach in Niger and Burkina Faso and plans to give FLD training in each country. The FLD results, including farmers' own food-security strategies and innovations, will be shared through the *Farmer Innovator Magazine* as well as PV films. For strengthening and wider promotion of the FLD approach, Prolinnova-Niger is seeking further funding at national and international level.

#### Conclusions and lessons learnt

The FLD piloting in Boumba Kaina, Takalafiya and Garin Bourtou has contributed to reversing the trend of extractive documentation by outsiders and has given farmers the opportunity to play a more decisive role in mobilising, documenting and sharing local innovation(s) and experiences. Though the technical quality of some of the documents thus produced does not always reach the highest standards, the effectiveness in terms of vertical and horizontal sharing and learning appears to be high. Despite quality issues, FLD and its outputs can play an important role in communicating key information and messages to other farmers as well as to professionals and policymakers because of the originality, innovativeness, high level of accessibility and relatively low cost of the products.

More importantly, the FLD process has supported and accelerated the empowerment and capacity-building process taking place in Boumba Kaina, Takalafiya and Garin Bourtou. The FLD products, the FLD experiences and the strengthened capacities of farmers and support organisations have become important entry points for interaction with other development initiatives. In a crucial spinoff, the FLD work has helped create a new approach to adult literacy training by integrating it with rural development activities and related documentation. This approach may spread to other corners of Niger through the relevant organisations and channels.

Our work with FLD in Niger gave us some important insights and lessons:

- Co-organising a national event (FLD training) with a farmer group in a village is an empowering process that increases awareness, understanding and confidence of villagers and community leaders about the ProlinnovA approach and activities;
- Farmers, local development agents and municipal councillors are keenly interested in FLD, particularly in using digital cameras, after being exposed to them for the first time;
- The low level of formal education did not limit farmers' participation in FLD training and implementation;
- Documentation of local innovation and experiences through FLD can make the end-product more accessible and understandable to both farmers and development agents;
- The multi-stakeholder partnership with its bottom-up approach helped greatly to reduce costs of producing and disseminating farmers' documents; nevertheless, the limited funds and time available for the FLD pilot seriously constrained the team from providing adequate training support and follow-up to the farmers;
- The combined efforts in literacy training and FLD are leading to changes in local attitudes and behaviour. For example, in Boumba Kaina, a farmer asked his wife to join him in a public picture in front of his parents and friends. In Niger, women usually are very shy to appear and talk in public;
- FLD using digital photo/video cameras is constrained by two main factors:

  a) the batteries available in the villages are not suitable for the cameras, and electricity is not available for using rechargeable batteries bought in the capital; and b) the capacity for editing and subtitling the farmers' films is available only in the capital and at considerable cost, borne thus far by Prolinnova-Niger. If resources or conditions for certain types of documentation, e.g. PV, are not locally available, the villagers and the FLD facilitation team need to consider whether this is an appropriate form of FLD.

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