

**FARMER-LED DOCUMENTATION AS A POSSIBLE TOOL FOR  
IMPROVED PARTNERSHIP BETWEEN SERVICE PROVIDERS AND  
FARMERS: A CASE STUDY IN MAFIKENG**

H.J. Vorster<sup>1</sup>, B. Scogings-Letty<sup>2</sup>, M. Malinga<sup>3</sup>

**Correspondence address:** Ms. H. J. Vorster, ARC-Roodeplaat Vegetable and  
Ornamental Plants Research Institute, P/Bag X293, Pretoria, 0001, Tel +27 12 841  
9611, Fax: +27 12 8080805, e-mail: [ivorster@arc.agric.za](mailto:ivorster@arc.agric.za)

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**ABSTRACT**

*Farmer-led Documentation (FLD) is a farmer driven process that enables farmers to share experiences and issues with others. The FLD process was tested to determine its effectiveness in projects where farmers, extension and research need to collaborate closely when farmers experiment while adapting technologies. Training on FLD, camera maintenance and taking photographs was done during a workshop, and further supported during follow-up visits through the season. The final feedback workshop enabled farmers to share the content of their photographs, as well as their experiences with FLD and photography. Farmers discussed activities they had undertaken and the results of their research, experiences with traditional leafy vegetables, management systems, crop experiences, and ways of handling pests and diseases. Farmers stated that they learnt new production methods from the sharing process and were exposed to methods used by people from different areas. FLD, when actively supported by local stakeholders, could enable farmers to share their knowledge with each other and discuss relevant issues with decision makers in their regions.*

**1. INTRODUCTION**

Documentation on a pre-determined object or theme tends to be done by experts. Generally, it is top down, with little or no consultation with the end users being reported on. Farmer-led documentation (FLD) is a multi-stakeholder process that is farmer-driven. Farmers decide what is documented, and the process enables farmers to speak freely about their issues and to share their experiences with others. The products are used in communities (internal learning), can be shared with other communities (horizontal sharing), and can be used by external institutions and policy makers for development (vertical sharing). The process must be participatory and inclusive, with those supporting the process (generally service providers) enabling farmers to lead the process. Documentation of farmers' experiences by the farmers

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<sup>1</sup> ARC-Roodeplaat Vegetable and Ornamental Plant Institute, P/Bag X293, Pretoria, 0001, Tel +27 12 841 9611, e-mail: [ineke.vorster@mccain.co.za](mailto:ineke.vorster@mccain.co.za)

<sup>2</sup> Institute of Natural Resources (INR), PO Box 100 396, Scottsville, 3209, Tel. +27 33 3460796, e-mail: [lettyb@ukzn.ac.za](mailto:lettyb@ukzn.ac.za)

<sup>3</sup> Farmer Support Group (FSG), Centre for Environment, Agriculture and Development, P/Bag X01, Scottsville, 3201

themselves allows them to share the information with others, and to have a record of their activities and outcomes (Ruter & Piepenstock, 2008).

FLD is one of the approaches promoted by PROLINNOVA (**PRO**moting **Local INNOV**ation in Ecologically-oriented agriculture and Natural Resource Management), an international network that promotes participatory approaches to research and development. PROLINNOVA aims to develop and institutionalise partnerships and methodologies that support processes of local innovation (Wettasinha, Wongtschowski & Waters-Bayer 2006). PROLINNOVA is interested in documenting processes of local innovation where local knowledge (generally undocumented) is built upon and new ideas from various sources are incorporated to generate new ways of doing things, an approach known as Participatory Innovation Development (PID). With PID, farmers take the leading role in the innovation process, with the support of service providers. PID can take the form of experimentation, adaptation of equipment to local needs and conditions, or developing new systems or ways of organising things.

The ARC-Roodeplaat conducted a food security project in North West Province in which new, more nutritious or more drought tolerant cultivars and crops were being evaluated using participatory breeding principles. This type of process requires high participation of all partners and constant evaluation monitors the effectiveness of the project. The first training year was done at Kgora Resource Centre just outside Mafikeng. Farmers took the experimentation and adaption process to their home and communal gardens in the 2008/09 season. In an effort to understand the farmer adaptation process in communities and strengthen the partnership between farmers, extension and research, FLD and the PROLINNOVA group became part of the project.

The aim of the FLD process was to assess the effectiveness of FLD in projects where farmers, extension and research needed to collaborate closely while farmers are experimenting and adapting technologies. It was anticipated that FLD would effectively document this processes.

## 2. METHODOLOGY

The pilot was undertaken with farmers from three villages in the vicinity of Mafikeng who were identified as possible farmer-trainers for the food security project. They undertook to also incorporate FLD activities in the gardens of the groups that they are working with. A workshop was held to initiate discussions with farmers and other stakeholders about FLD, and to provide basic training in digital photography. A general introduction to PROLINNOVA and the development approaches it promotes was also discussed.

Most farmers were exposed to a digital camera for the first time. This necessitated very basic, but intense, practical training sessions on the use and maintenance of digital cameras. The following aspects were addressed:

- Discussion on the mechanics of a digital camera
- Replacement of memory cards and batteries and charging of batteries
- How to improve the quality of their photographs

- Basic troubleshooting

After the formal camera training, farmers were asked to document subjects interesting to them, irrespective of the agricultural nature of the subject. The resultant photographs were projected onto a screen and evaluated by the group, with suggestions on improving the quality of the photos being discussed during the session. Discussions about the expected activities associated with evaluating the cultivars under their own growing conditions, as well as other aspects that needed to be documented, were held.

The farmers prepared a timeline from the period of planting to harvesting, enabling them to consider the type of activities that they would be involved with and which they might like to document. The process for downloading and printing photographs was also discussed, as this required coordination of the leader farmers from the various villages and extension officers. The overall process leading up to the final sharing workshop was outlined.

Following the training session, subsequent visits to the farmers' gardens were made during which the photographs were evaluated by individual groups using a laptop computer and identified for printing. A follow-up visit by the facilitators from KwaZulu-Natal that focused specifically on the FLD aspects of the project was made in November, and further discussions on the process and expectations were held. During follow-up visits by ARC personnel in August, October and November 2008, and February and March 2009, camera-related problems were rectified, farmers were given additional support with documentation in their gardens, and photographs were selected for printing.

A final feedback session was held in the first week of May, which allowed for the sharing of results between the different stakeholders. The original planning session allowed for 50 photos per participant to be printed. During the follow-up visit in March, discussions about the process of sharing at the May workshop were initiated. Before the workshop, farmers were provided with poster boards and coloured pens in order to enable them to prepare material for the feedback session. The posters were displayed around the hall and all participants moved from one poster to the next. The poster presentation was followed by an open discussion between all stakeholders present. Stakeholders included Extension management, extension officers, local University of North West personnel, farmers and non-governmental organisation (NGO) personnel.

### **3. RESULTS AND DISCUSSION**

#### **3.1 *Camera and photographic training***

Prior to initiating the pilot study it was decided to use photography as the method of documentation. Digital cameras were chosen for the following reasons:

- Film cameras are outdated technology, and film might be more difficult to buy and process in future.
- The instant feedback possibilities with the playback function on the camera enable the photographer to experiment and make immediate corrections. Development of films is cumbersome and costly, and farmers could make the

same mistakes on a whole roll of film and would only realise it after development.

- In spite of the lack of computers in most areas, farmers are able to view their photographs on the LCD screen on the camera, which enables them to make decisions on which photographs to select for printing. The greater access of extension staff to computers will enable them to download and store the photos on CDs for future use by the farmers.

None of the farmers that attended the workshop had ever used a camera, thereby creating a need for very basic training. During training the following aspect were highlighted:

- Discussions on the different components and basic operation of the camera took more than an hour. Training included basics, such as inserting a memory card the correct way, closing the battery cover without breaking it, how to take an actual photograph, switching the camera on and off, and how to view the photographs that were taken. Aspects such as deleting of photographs were not discussed for fear of deletion of all the photos by mistake. Certain functions of the cameras, such as the zoom function, were also not covered during the initial workshop.
- Discussion about how to distinguish between a rechargeable battery and a single-use battery, as well as how to use a charger, and how to correctly insert batteries into both the charger and the camera, took some time as many of the farmers had problems with their eyesight and were also unfamiliar with the technology.
- The principle of letting farmers take some photographs, and then reviewing them and making suggestions on improving common mistakes (taking daylight photographs with a window in the background, moving the camera while pressing the button, etc.) worked well. Giving some basic tips about contrast and lighting assisted farmers to improve the quality of the photographs. No training on picture composition was given in an effort not to further confuse the farmers. The quality of the pictures taken was surprisingly high, with photographers learning by themselves what constitutes a good photograph. Since farmers were able to take many photographs and then instantly see their results, the choice of a digital camera was validated. Farmers were able to correct mistakes immediately and could play around with what they wanted to show. During the follow-up meetings more confident photographers were taught more ways of taking a photograph by using the zoom function, as well as the macro function. In general, the younger farmers were more adventurous with the camera than the older farmers.
- Basic care and maintenance of the camera, batteries and charger were discussed. The importance of keeping them dust-free and protected from water and dirt was discussed. All cameras were always well insulated from these hazards by placing them in a plastic bag in the shade when they were at the garden.

The training aspects for the camera and taking of photographs took longer than anticipated. The poor eyesight of older farmers (generally associated with technophobia) led to longer time needed for the farmers to become comfortable with their cameras. Some groups had only one or two members who were actually

interested in this aspect of the project. As this was an existing group of trainees, no selection of candidates for the FLD training could take place beforehand.

### **3.2 FLD training and feedback meetings**

The awareness meeting consisted of two days. In the first day the concept of FLD and its importance was discussed by the facilitators from FSG, INR, Department of Agriculture: North-West and the ARC. This was also the first exposure of North-West extension services to FLD, PID and PROLINNOVA. The expectations of farmers, extension and PROLINNOVA were discussed, and the process to the final workshop was explained. The awareness meeting was very intense and farmers had some trouble in becoming the important documenters of the PID process. The previous year's work at Kgora had helped farmers to realise that they needed to play a more prominent role in what was being done with and for them. Due to the years of being on the receiving end of a top-down approach in research and extension, this process is, however, slow. The farmers had exposure to participatory techniques at Kgora, but the bigger paradigm shift required from them by the FLD process was too much to assimilate in such a short time.

Support during the FLD pilot period was difficult because three of the facilitators who had been present during the workshop came from outside the province (KZN and Gauteng), while the key Mafikeng-based person was unavailable during this period. The locally-based extension officers were also new to the concept of FLD. Basic digital photography training was also needed by extension officers. This had not been taken into consideration as they were attending the PROLINNOVA/ PID/ FLD awareness training when farmers were trained.

At the first visit by the ARC staff subsequent to the awareness meeting, it was realised that farmers did not have a good understanding of the FLD process, and were not sure of what material they should be documenting. This was discussed with the PROLINNOVA team and a follow-up visit was made by one of the facilitators in November, where each group was visited in their garden. There was discussion about what farmers could document and the reason for the documentation was once again explained in detail. Another complication that was encountered was that of how the cameras were being shared amongst the farmer trainers in each of the villages. After this training visit, farmers were more confident in what the process entailed and many photographs were taken to help illustrate or document the various aspects of their agricultural experiences.

This experience highlights the need for competent FLD and PID practitioners who are able to support farmers during the initial stages of the process. Usually there is support in the form of trained extension officers or NGO field workers, but as this is the first introduction of FLD to both farmers and extension officers in North-West Province, this support structure was not yet in place. In future, however, the build-up of a strong support base before the introduction of FLD to farmers is essential. Training of extension officers in basic photography (lighting, camera functions, troubleshooting) would also be needed to help strengthen their support of FLD in communities. As photography should be as much a part of extension methods as leaflets and posters, this should be considered in informal training sessions where large numbers of extension officers can be sensitised. Just an hour's exposure to basic

photography can drastically improve extension efforts as the success rate of effective photographs increase.

It was difficult to make this a truly farmer-led process as the idea was externally driven and the farmers' capacity to manage the process was compromised by their lack of understanding of the use of digital cameras. The process of not only taking pictures, but also selecting them and having them printed, was very new to the farmers and this meant that they were reliant on support from the facilitators. The possibility of using documentation techniques that farmers are more familiar with should be considered in future.

### **3.3 Documentation**

Farmers had problems understanding the principles of FLD. After a second meeting with the groups within their gardens where examples of what could be documented was available, the rate of documentation increased as farmers became more excited about the process. In some areas it even became difficult to choose the 50 photographs allowed per participating farmer. In the communities with communal gardens it was expected that there would be much overlapping of photographs, but this did not occur as each farmer had his/her own way of telling their story. Different aspects were important to different people.

During the follow-up visits, the situation was complicated by the fact that many of the farmers present at the gardens had not been part of the group that initially attended the FLD training and had no understanding of the FLD process or its purpose.

In Ikopeleng where there were two very young farmers, the number of photographs taken was high, with the documentation of personal experiences also quite high. This was encouraged as it honed their photographic skills and ensured that it became a normal part of their daily activities. Farmers tended to take photographs of their yields, crops in the field, activities (weeding, irrigating, planting, etc.), some unknown disease/pest, practices and events. A common phenomenon was that farmers did not want to photograph 'failures', such as high disease incidence and weed growth after good rains for a few weeks. Explaining that this was actually something that other farmers also experienced and that they might actually receive some helpful advice during the final workshop had mixed reaction from different farmers. The facilitators hoped to generate an appreciation of the farmers' ability to innovate and find evidence of farmers adapting information received from research and extension.

### **3.4 Dissemination workshop**

At the dissemination workshop farmers were expected to give feedback using their printed photographs. Each farmer had a turn to discuss their posters and what it meant for them. After each discussion the other farmers joined in and exchanged possible solutions, shared frustrations and celebrated achievements. The following aspects were addressed by the various posters:

- Diseases and pests experienced and any possible low-tech solutions (i.e. red spider mite on tomatoes (scout to minimize impact), termites attacking onions (spread fish bones to attract flesh-eating ants who will attack these termites [information supplied by the ARC-PPRI]))

- The influence of the project on own and other families (many shared big harvests with AIDS orphans or ill people)
- Tools and equipment available
- Yields experienced and sales of products
- Some problems experienced (i.e. lack of water and its effect) and some solutions (lack of land, therefore asked permission from two neighbours to plant in their underutilised gardens)
- Training of other community members (youth, caregivers, teachers, individuals, garden groups)
- Innovations developed (i.e. wire name tags, tool to make planting holes, methods to break the water impact during flood irrigation)
- General garden activities (i.e. crop rotation, composting for soil improvement)
- Crops and varieties planted
- Communal garden participant activities
- Assistance received (i.e. nets to minimise bird damage), celebrations and awards received
- Other enterprises (sheep flock which had grown from 5 in 1985 to 130 in 2009)
- Group members

Mainly women tended to document the influence of these gardens on families, while men tended to document tools and equipment available in the gardens.

The workshop provided farmers with the opportunity to share with others on two levels. Firstly, they shared the content of their photographs – the activities they had undertaken and the results of their research. Secondly, they shared their experiences with FLD and photography. Farmers discussed their experiences with traditional leafy vegetables, management systems, crop experiences, and ways of handling pests and diseases. Farmers stated that they learnt new production methods and were exposed to methods used by people from different areas.

Feedback from farmers about the FLD process included:

- The initial training process was enough to get started, but that they had to make use of the manuals to deal with some of the problems they encountered.
- Photo documentation is more useful for old people because young people can just write things down.
- One farmer did not realise that the photographs would prove useful in being able to give a presentation to others. She said that “she thought she was playing, but was actually building information”.
- Photographs can be used as evidence to show others that they have gardens and that it will be a way of developing interest. They can now show young people that their garden work and training is of benefit to the whole community.

Feedback from extension officers and extension managers included their appreciation for the work done by the farmers, thereby enabling management to also understand the needs of farmers better. They could react on these presentations directly and explain to farmers their constraints (mainly financial, but also in terms of personnel) and possible solutions to some of the problems. Both farmers and the extension

personnel experienced a better understanding of each others needs and problems, leading to better cooperation between them.

#### **4. CONCLUSIONS**

When a participatory approach is being implemented there is a need for a strong support base during the process of transforming a top-down farmer-extension-researcher relationship into a more participatory approach where farmers need to become more assertive within this relationship. This is, however, an uncomfortable fit within the mainly top-down approach still embedded within the extension system. Many farmers, extension and research personnel still need to make the paradigm shift towards the bottom-up approach, though many of the hierarchical structures within which they exist does not encourage this approach.

Research and extension programmes can benefit from working with innovative people who bring their own ideas about how to address a particular problem or capture an opportunity. Using a PID process will help to ensure local buy-in and adaptation to the local environment as it builds on existing ideas and motivations. Innovation is particularly important, given the constantly changing nature of farmers' environments (Waters-Bayer, Van Veldhuizen, Wongtschowski & Wettasinha, 2009).

Participatory approaches such as FLD have potential to enable this paradigm shift, ensuring more sustainable projects that address the needs of farmers, with farmers playing an active role in the decisions that will influence their lives.

The key challenge faced with the current pilot study was the introduction of new, unfamiliar technology to the farmers. More support during the initial stages would have provided the farmers with a stronger basis, which would in turn have allowed them more opportunity to drive the process.

The possibility of exploring other methods of documentation that do not rely on the use of high-tech and expensive equipment that is unfamiliar to farmers can also be explored. For example, extension staff can support more basic methods of farmer-to-farmer sharing, such as discussion forums and drawings. The benefit of methods, such as digital photography, is that it also allows farmers to share their findings and challenges with other parties, such as researchers and policy makers.

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& Malinga  
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