Improved market engagement for sustainable upland production systems in the North West Highlands of Vietnam ("Northwest Vietnam Project")
AGB/2008/002

Outreach strategy, performance and achievements

Pham Thi Sen and Elske van de Fliert

I. Objective

The outreach strategy of the Northwest Vietnam" project aims to develop processes, materials and capacity to support development organisations, such as the Extension Centres, to enhance farmers' knowledge and skills of relating to Sustainable management of Integrated Upland Maize Systems. The final target is to achieve large-scale adoption by smallholder farm households of project research outcomes such as soil erosion and crop management practices.

To this end, we focused our efforts on: (1) adaptive trials, demonstration and dissemination of practices suitable for wide application under farm conditions in the target sites, (2) awareness raising on the needs for improved upland maize system management, and (3) building capacity and linkages for facilitating farmer learning to implement sustainable upland maize system management.

II. Performance and results

The outreach strategy has been implemented throughout the project life, since its very beginning, through the following activities that linked the research work with the development organisations:

- Participatory development of annual action plans.
- Participatory planning of detailed protocols for each field trial.
- Adaptive trials involving different technical options for soil erosion control and for sustainable cropping systems management involving farmer researchers and extension officers.
- Participatory Monitoring and Evaluation of each field trial.
- Participatory annual evaluation sessions.

The development of a model for larger scale outreach to upland farming communities started in 2011after trial results had provided sufficient evidence to recommend the best technical options suitable for farmers in the different project areas.

The outreach strategy into the wider community involves:

- Organisation of field days and cross visits.
- Implementation of a mental model study on perceptions about erosion.
- Production and dissemination of photo stories made by farmers.
- Production and dissemination of training and communication materials.
- Demonstration plots of best practices.
- Organisation of Training of Facilitators for extension staff.
- Organisation of four pilot Farmer Field School (FFS) involving 83 farmers.

1. Field days and cross visits

From 2011, field days were organised at the trial and demonstration sites during a time of the season with the appropriate stage of plant growth and development to demonstrate the results of good management practices. Before harvesting the crops in the trial and demonstration plots, cross visits between different project sites within a district were organised. Farmers, including those participating in the trials and others, as well as commune, village and district leaders, extension officers, provincial extension centre and DARD officers, were invited and encouraged to exchange ideas on all related issues. These included soil erosion problems, impacts/advantages/disadvantages of each of the technical soil management options that were tested, and lesson learnt from the implementation of the trials and demonstrations.

In 2011, a study visit to CA sites in Laos was jointly organised by the ACIAR and ADAM projects for researchers, local leaders and extension staff participating in the projects.

In 2012, one field day was jointly organised with the ADAM project, an AFD supported project on conservation agriculture (CA) in Son La and Yen Bai provinces jointly implemented by CIRAD and NOMAFSI. This joint field day involved visits to some trial sites of both projects in Mai Son district of Son La. Participants had a chance to observe and discuss diverse erosion control options, different CA systems, as well as some tools for direct seeding.

In 2013, a five-day cross visit and field tour was organised to most of the trial and demonstration sites of the ACIAR and ADAM projects in Lai Chau and Son La provinces. Participants, almost 50 people in total, including researchers, local farmers, leaders and extension staff participating in the ACIAR and ADAM projects, DARD leaders of Son La, Dien Bien and Yen Bai, actively discussed different technical options for soil erosion management and factors promoting or inhibiting their adoption by small scale farmers in each site. Other relevant topics such as FFS as a farmer training approach, additional cropping season, grass cultivation for intensive animal husbandry, and direct seeding equipment, were also discussed.

The presentation of a large numbers of participants representing different groups of people from different locations, and their active involvement in discussions demonstrated a strong interest of farmers, local technical staff, leaders and decision makers at different levels (commune, district, province) in the project's activities and results, as well as their willingness and needs for up-scaling appropriate innovations.

2. Mental models study

The objective of the mental models study was to identify and compare farmers' and researchers' perceptions about soil erosion as a risk to future livelihoods. A series of meetings were organised with farmers and local officers, in which different scenarios describing the potential risks of soil erosion were discussed. The three scenarios had been developed by the project researchers.

The first scenario had a positive outcome where farmers, with help of local government and extension services, changed their practices toward a sustainable soil management system that reduced erosion and brought long terms benefits, despite the initial increase in labour input.

In the second scenario farmers sold their land to an international company that invested in sustainable soil management and as a result increased productivity. After seeing that company obtained increased

productivity and realised that the land production capacity was much higher when properly managed, farmers wanted to buy land back. However, that was not possible, and consequently after spending all the money they had received for the land farmers had to search for work outside of the village.

The third scenario involved the disastrous long-term consequences of soil erosion when farmers would not change their practices whatsoever.

Through a discussion of these three scenarios with farmers, we obtained a clear understanding of the perceptions on soil erosion of farmers from different ethnic groups in different project sites, which helped explain their reasons not to change their management practices easily. This understanding provided useful input into designing training activities that will help change these perspectives. Through this process we were able to address the non-sustainability issues of existing maize-based production systems and raise farmers' awareness on the needs for adoption of sustainable practices.

3. Production and dissemination of training and communication materials

- ***Photo stories***

This is one of the ways for farmers to share their opinions about the project's activities and the innovations tested. With a compact camera provided by the project, one of the farmer researchers in each village documented situations illustrating some sort of change that they observed, for the good or bad, as a result from the project's activities. Then, with the project researchers' support, farmers sorted the photographs and composed them into stories. A hard copy of each story was left with the farmer groups and put up in their houses or a nearby kiosk, serving as a focus for discussion about the project activities within the community.

In addition, from hundreds of stories collected over the years, thirty-three stories were selected and collated in a booklet "Photo Stories" in both Vietnamese and English language. This booklet was launched at the 3rd Conference on Conservation Agriculture in Southeast Asia held in Hanoi on 10-14 December 2012 and evaluated positively by the conference participants.

- ***Technical manual and facilitation guide***

Considering the complex nature of sustainable upland management and the generally unfavourable perceptions of farmers in the Northwest relating to sustainable maize-based cropping systems management, a comprehensive set of training modules for farmers was developed based on the research results of our and other relevant projects. The training modules were documented in a technical manual containing both explanations of the issues and description of innovations, complemented by a facilitation guide for local extension officers describing the activities to introduce the issues and innovation to farmer groups. An outline of the manuals is provided in Appendix 1.

- ***Videos***

Two video modules are being produced. They will be used by extension staff and researchers to facilitate discussions towards increased awareness and capacity of farmers in soil erosion control and other techniques for sustainable maize-base cropping systems management, namely balanced fertilisation, pest control, proper application of chemicals (including pesticides, herbicides and fertilisers), selection of appropriate maize varieties and sowing times meeting the requirements for one or two crops per year, harvest and post-harvest practices..

- ***Other information materials***

Some posters are being developed for farmers to put in their houses and in the community cultural houses. The posters focus on proper use of pesticides, soil erosion problems and some soil erosion control methods.

4. Demonstration

From 2011, demonstration plots with best practices for soil erosion control were managed at four project sites. Based on the results of the trials, the soil erosion control methods most suitable for large-scale implementation by farmers were identified through the PM&E process, which included:

- Mulching and minimum tillage: for all sites of the project
- Intercropping with rice bean: for all sites of the project
- Intercropping with Guatemala grass hedgerows: for Giang Ma (in Tam Duong, Lai Chau)
- Intercropping with legumes (soybean): for all sites
- Second crop: for Ban Bo, Tam Duong, Lai Chau

In order to facilitate the adoption of these options, the provincial extension centres of the two provinces were assigned to manage participatory demonstration plots. In each site, 1-5 households with appropriate land areas, ranging between 0.5 – 1.0 ha, were selected to take part in developing the demonstration plots. The technical options tested on the demonstration plots were evaluated in a participatory way with farmers and local staff, who would then be able to select the appropriate options for up-scaling.

Through participation in the demonstration trials, extension staff's capacity and awareness improved (to be evidenced by final evaluation studies later in 2013), while the involvement and participation of local decision makers (leaders of DARD, Extension Centres and Station, communes and villages) visibly increased. This has great value for up-scaling of the practices.

5. Training of Facilitators (ToF) for extension officers

Two four-day training events were organised for 17 extension officers from Son La and Lai Chau provinces. The first one was in September 2012, in which the foundation was laid for the extension officers to become facilitators of the FFS on sustainable maize-based system management. The second one was organised in December 2012in which the detailed plans for FFS in each village were developed. The detail plans and outlines for training manual development were also agreed upon.

After completion of these two events, using the technical guidelines provided by the project and with technical supports of the project researchers, the extension officers developed a technical manual and a facilitation guide for FFS implementation.

They then organised and facilitated pilot FFSs over two cropping seasons, which will be completed at the end of the second crop season of 2013. Thereby, these extension officers have both been learning to become a FFS facilitator and completing their TOT course, while at the same time they have been training and supporting farmers to apply sustainable maize-based system management techniques. They will be able to organise and facilitate FFSs and help farmers to integrate sustainable crop management practices in their farming systems beyond the project.

6. Farmers Field Schools (FFS)

FFSs are being conducted during 2013 consecutive cropping seasons. In total, four FFSs engaged 83 farmers as below:

- 20 farmers in Ta Leng village (Ho Thau, Tam Duong, Lai Chau)
- 20 farmers in Na Van village (Ban Bo, Tam Duong, Lai Chau)
- 23 farmers in Suoi Khem village (Phieng Luong, Moc Chau, Son la)
- 20 farmers in Noong Luong village (Co Noi, Mai Son, Son La).

Although the detailed content of each training curriculum varied across sites to suit the local conditions, each FFSs consisted of 9 sessions covering all necessary steps from land and seed preparation to harvest and postharvest concentrating on sustainable practices.

Each FFS established one large learning field for all the farmer-trainees to practise the techniques learnt at each session. In addition, each farmer-trainee was provided with support to apply their preferred techniques in a small selected plot of 500 m^2in their own field..

Field days and cross visits were organised to FFSs sites and their learning fields. Many farmers who were not participating in the FFSs were also encouraged to visit and share their views. Thus, not only 83 farmers but also other farmers potentially could enhance their awareness and knowledge from the activity.

As evaluated by local officers, our FFSs are very effective for building capacity and awareness of farmers, and also for dissemination of best practices.

III. Conclusions and recommendations

For a Research for Development project, the design and testing of model for the dissemination and implementation of research outcomes is of vital importance to achieve impact in farmers' livelihoods. Within our project's framework, as mentioned above, this has been realised through various activities focusing not only on demonstration, capacity and awareness-raising but also on improving linkages between researchers – extension officers – farmers – local decision makers, and significant results have been obtained.

Nevertheless, much more effort is required to reach out to greater numbers of farming households in the Northwest upland areas. In addition to the above mentioned aspects, further efforts should be focused on the following:

- Incorporation into the existing strategies/programs of the provinces.
- Involvement of sectoral decision makers at the province level.
- Involvement of the private sector.

Together with locally suitable innovations that improve farmers' income while preserving the environment, accessible and attractive processes and information media need to be designed and offered to make the implementation of the innovations by smallholder farming households possible on a large scale.

Appendix 1
Manual Sustainable Management of Integrated Upland Maize Systems FF&BS, Northwest Vietnam

1.	Technical manual:
1.1.	Introduction to Sustainable Management of Integrated Upland Maize Systems
1.2.	Soil erosion management
1.3.	Cropping pattern
1.4.	Variety and seed selection
1.5.	Fertilisation
1.6.	Crop establishment (first and second crop)
1.7.	Observation of crop and environment
1.8.	Management of maize pest and disease
1.9.	Management of legume pest and disease
1.10.	Farm economic analysis and management
1.11.	Harvest, post-harvest
1.12.	Marketing
1.13.	Farm management planning
2.	Farmer Field School facilitation manual: (learning exercises)
2.1.	Introduction to FF&BS
2.2.	Facilitation of FF&BS
2.3.	Experimentation
2.4.	Managing two crops per year
2.5.	Soil erosion and management
2.6.	Variety and seed selection
2.7.	Fertilisation
2.8.	Crop establishment (field preparation, planting density, first fertiliser dressing, …)
2.9.	Observation of crop and environment
2.10.	Pest and disease management
2.11.	Farm economic analysis and management
2.12.	Harvest, post-harvest and marketing
2.13.	Crop establishment legume crops in second season
2.14.	Farm management planning
Appendix 1: Group dynamics exercises	