Experience with Participatory Agricultural Extension (PAEM) in Son La and Lai Chau

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Dr. Elke Foerster (GTZ/SFDP)

for GTZ/SFDP and SNV

TABLE OF CONTENTS

1 Why was PAEM chosen in SFDP? - History of its design
2 What is PAEM?
   2.1 Objectives and target group
   2.2 Steps (what, how? When? By whom?):
3 Implications of implementing PAEM
   3.1 Implications for human resources in the extension system
   3.2 Implications for staff management
   3.3 Financing requirements and financial issues
4 Summary of successes and limitations
5 Issues for scaling up: How to start applying PAEM outside SFDP?

1. Why was PAEM chosen in SFDP? - History of its design

When the Social Forestry Development Project (SFDP) started in 1993, it was primarily focussed on how to improve the relationship between people and trees in order to improve the living conditions in the two provinces of Son La and Lai Chau. It became soon clear that villagers, when asked about their living conditions, problems and options for improvement were mainly looking at agricultural issues. Only if agricultural production could be intensified would they be able to attend to the problems of the forest and forest land, and consider better forest management practices. Intensified agricultural production would allow them to turn forest land that was currently used for food production, back into forest using natural regeneration or afforestation. Based on a map which indicated present land use and another map depicting anticipated future land use (i.e. land use planning) land allocation for forest land was initiated in order to clarify who would be responsible for which area.

At the same time activity plans had to be made in order to reach the goals set and to implement the solutions identified: Who should test out a new variety of rice which would improve not only yields but also profits (gross margins in the words of the economists)? What variety was most promising? Who would provide
the seed, who could teach the women and men in the village about the management requirements of the new variety? When would that happen? These activity plans made by the villagers were called Village Development Plans and became the centre not only of project service provision but also the basis for government service provision. They are currently implemented in more than 300 villages in Son La and Lai Chau, an expansion that became possible by the co-operation with the EU Lai Chau Son La Rural Development Project¹.

Back to our farmers: In 1995 project staff went to the agricultural extension station which was just being created in the district and showed them the requests of the farmers. Three major issues became clear:

1. **Extensionists** were not used to responding to requests like this, but thought it would be a good idea if the requests came from the farmer, rather than from within the extension service as a task to promote a certain technology or variety. This way the farmers would be more motivated and energetic.

2. **Extensionists** could not respond to all the requests. This finding had two consequences. Firstly we needed to organise information (sources are Research Institutions, Universities and the Extension Centre on national level) and training for the extensionists so they would be able to respond to the requests. Secondly we would have to narrow the areas of requests before asking the farmers, what they wanted to put in their plans. E.g. once we knew that we could not access a good fish trainer, we wanted to discourage farmers to request training in fish raising, otherwise they would be disappointed. Therefore we listed the services that we thought we could supply and called it the “Extension Service offer”.

3. State extension budgets did not allow for the required amount of training, coaching and supervision. If a district extension section has a budget for introducing a new rice variety, it usually only covers the provision of inputs (seeds and sometimes fertilisers), and enough “management fee” to dump the seed at the door of the commune chairman and read out the instructions of how to manage it into a megaphone. This leads to the situation that once the extensionist has left, nobody remembers clearly what to do. So it comes to no surprise that so often the introduction of new seeds fails. If, however, extensionists took time to discuss with farmers the selection of a field, assist a group of them in the seed bed preparation, transplanting and fertiliser application, the success of the new seed was so convincing that farmers would buy it themselves the next year, even without Government subsidy.

Based on this analysis, in 1996 information supply and training was organised with project funds and the support of an agricultural expert from Thai Nguyen University. In 1997 this good co-operation of Government funded input supply and project supported training and coaching assistance was continued. Furthermore an international expert joined the project, and the response to farmers’ requests was formulated as a contract with the agricultural extension station, the veterinary station and the plant protection station for the year 1998. From mid 1999 two SNV development assistants supported the local extensionist training and the consolidation of the extension approach².

2. What is PAEM?

2.1 Objectives and target group

Objectives:

1. Farmers are provided with the Government extension services that they actually have selected to be most useful and promising in their situation.

2. Extensionists have clear instructions on how to provide the most useful service most effectively and efficiently. We cannot expect extensionists to be flexible facilitators and visionaries!

3. Extension managers can clearly plan, budget, monitor, evaluate and document the services they have provided. We cannot expect political support without providing evidence of what we have done and achieved!

Population targeted:

Men and women farmers in "inhomogeneous areas" with highly variable production conditions – marked annual differences in weather, and variations in growing conditions on almost every hill.

Farmers with money that they are willing to invest in increasing agricultural productivity and farmers who have no cash band need to invest labour or extra attention instead.
2.2 Steps (what, how? When? By whom?):

2.2.1 What is happening for the farmer?

Step 1: A “Service offer” for the following year is prepared by the district extension station by July of each year, based on the evaluation of the last growing season and the information on new varieties from Hanoi Research Institutes or surrounding districts.

Step 2: Farmers select the activities for the following year during VDP in August.

Step 3: The Agricultural Extension Station (AES) makes a feasibility plan concerning the activities they can support and the budget they have based on the aggregated requests in October.

Step 4: The district service suppliers feed back the approved activity plans to the villages in December/January.

Step 5: Example for a follow up of a planned trial: The extensionist calls the first village meeting in the village before the onset of the growing season. All interested farmers participate. In the meeting the details of the trial location and the selected technique, the contract with the concerned farmer, the monitoring schedule, etc.

Step 6: The extensionist follows the monitoring plan for visiting the trial & demonstration plots. He is available prior to any important new activity (e.g. the application of nitrogen fertiliser).

Step 7: The extensionist calls in a field day for the farmers in the village to see and discuss the results of the trial or demonstration. Technical details and financial details are clearly explained by the contracted farmer. During this field day each farmer can conclude if this activity is suitable for him and if it should be entered into the VDP for next year.

Box 1: Example of an outline for a service offer with 7 kinds of activities:

a. Setting up trials: In order to assess carefully if a change in the production system (e.g. a different variety, planting density, or fertiliser application) is technically and financially suitable, a small test is necessary. A real comparison between a promising new technique and the old technique can help farmers to assess its costs and benefits.

b. Setting up demonstrations: If a new technology (an innovation) has proven to be successful in a neighbouring village extensionists can facilitate a replication in order to convince farmers that the option is also suitable for them.

c. Giving training to farmers: If a technical problem is the reason for low productivity, extensionists can offer a training, e.g. if the wrong fertiliser is applied.

d. Organising study tours: In some cases it is difficult for farmers to be convinced of a new type of production (e.g. fruit) or a new technique, without having seen it. In this case study tours can be organised to places where this type of product is grown or the new technique is used.

e. Organising input service: Once farmers are convinced of a new technology, e.g. they find that LVN10 is a suitable maize variety for their upland, the district service providers can organise the seed input.

f. Coaching Producer Groups: For some activities (e.g. bee keeping) it is useful to market jointly or to support each other in technical questions within a group of people. Extensionists can help to set up groups, and provide them with technical and organisational support. This option is also explained further in Chapter 3.

g. Providing subsidised seed: While the project has not supported this activity, in some districts the Government is currently providing subsidised seed. Where this is the case, the best allocation of these resources can be discussed.

Communication is the crucial element between extension workers and farmers.
The cycle begins again with new and old activities in the following growing season.

If the farmers have not selected a field trial but another option of the service offer, step 5ff will of course differ.

2.2.2 How can PAEM be managed in the extension station?

Planning is a major prerequisite for successful field implementation. Planning by the management is done every week, month, quarter and year. It is discussed in staff meetings and documented in standardised forms. The plans are put on the whiteboard for everybody in the office to see.

A second major prerequisite is monitoring and evaluation: The extensionist does the technical monitoring in the field. This is the basis for improving production technologies. He also monitors the opinion of the farmer. This happens during the course of the trial and at the field workshop in the end. Only by finding out if the farmer is comfortable with the timing of activities, with the costs involved and with the results, does the new technique have a chance to be applied. The extension management monitors the activities of the extensionist in the field. Together with the extensionist the management can discuss upcoming technical and organisational problems, and draw conclusions for the next year.

Finally, the budgetary requirements have to be made very clear at the beginning. Accepted financial standards and accounting systems have to be agreed upon.

Please, note that all planning, monitoring, evaluation and accounting forms are available as a "starter kit".

2.2.3 Reasons, why we use this methodology? Underlying principles

1. Farmers know their own situation and limitations best.
2. Farmers know best about their interests. They are more motivated to put in energy and overcome problems if they have selected one activity among a given number of options.
3. Technical solutions are not available off-hand but must be tested and adapted in the field based on detailed observation by the farmer and the extensionist.
4. Extensionists need clear instructions for their work. They are not flexible facilitators.
5. Extension managers need to be able to plan, budget, monitor, evaluate and document their services to improve the service and to get political and financial support.

3. Implications of implementing PAEM

If PAEM ist applied by the Government extension system in remote areas, there are several changes required.

3.1 Implications for human resources in the extension system

The number of extension workers determines the coverage: PAEM was originally used in two districts working only with district extensionists (around 8 persons being available for more than 100 villages). As the time input for coaching, training, and facilitating reviews and discussions is high, the coverage is low. In each season the extensionist cannot handle more than 3 trials in 3 different villages.

With commune extensionists the coverage is sufficient. When Yen Chau district started to integrate commune extensionists in 2000, some of the monitoring and coaching work was assigned to the commune extensionist. And within 2 years the commune extensionist can take over the implementation of some of the trials almost entirely. Thus the coverage within the district increases to a more satisfactory level.

Extensionists need to be trained to fulfil their tasks as facilitators: For extension workers to change from being a seed supplier to being a facilitator requires many new skills. For getting these required skills training is needed. Training must cover both technical issues and teaching methodology. And it must cover some theory, but mainly a lot of practice under supervision and coaching.

Box 2: Training Extensionists in extension methodology

Most efficient didactics training for extensionists in Tua Chua was when the extension
3.2 Implications for staff management

When using PAEM, extension managers have to manage their staff quite strictly according to plans and assign clear responsibilities for the outcome of a trial. If the extensionist delays crucial coaching inputs (e.g. to coach transplanting for a density trial in paddy rice, or measure the yield difference between trial and control plot), easily a whole trial season gets lost.

On the other hand the manager has to provide the flexibility necessary to ensure quality of the trials. E.g. in case of problems, an extensionist may have to schedule an extra visit to the field, or for a successful trial the extensionist may want to organise a second field day for the neighbouring village.

Less flexibility, however, has to be granted for extensionists to take on extra assignments during the year, which endanger the successful completion of the trials. The manager has to be aware of the administrative implications of not being able to react to short-term requests and of the problems related to potential loss in revenue for his staff.

3.3 Financing requirements and financial issues

There are two major problems with implementing PAEM under the Vietnamese national budgetary system. Firstly, PAEM requires that a very large percentage of the available budget is spent on training, coaching and facilitation meetings, while only a small percentage is spent on “hardware”, i.e. seeds and inputs. E.g. according to our experience in an annual budget of about 200 Mio VND for a district extension station, about 80% is needed to cover farmer training, training materials, farmer meetings, per diems and travelling expenses for extension workers. Less than 20% of the budget is spent on inputs. This budget allocation does not fit with Vietnamese government payment structures where commonly 80% of the funds allocated to an activity have to be spent on "hardware", and only 20% on what is called "management and training". A change of budget allocation requires political support.

The second budgetary issue relates to the fact that the Vietnamese extension organisations, as well as other administrative structures, is encouraged by law (see "extension decree" 13 CP, dated 2.3.1993, Para. 9; and 02/LB/IT, dated 2.8.1993, Para, III, 1c) to operate like a commercial enterprise, i.e. to"make a profit" for the benefit of the staff of that office. Profits may be generated by purchasing inputs more cheaply than the agreed standard, reducing time inputs or receiving a benefit sharing contribution from the farmers. Using PAEM, the reduction in input handling and very high and transparent time input drastically reduces the management options for profit making. Understandably, a successful extension station manager is very hesitant to give up his management task of profit generation. Even with good per diems for PAEM they feel that the staff is earning their money very cumbersome. Furthermore, accounting much more easily fulfills Vietnamese budgetary requirements when it is based on bills for material inputs. Expenditures on trainings and field visits, the main bills produced in PAEM, are more cumbersome to handle transparently.

Box 3: How does the extension budget function currently?

Currently in Son La, annual budgets to district extension stations consist to a large extent on the regular extension budget. Payments standards are predefined for all activities (e.g. setting up 10 ha of a new rice variety is calculated at 40 Mio VND). The financing is provided in cash or in kind (e.g. seed, fertiliser). Monitoring is based on provided material bills, “reasonable” personnel inputs, and the plausibility of having done 10 ha. Using PAEM would require a lot of time input that is currently not reimbursed.
4. Summary of successes and limitations

Where is PAEM suitable? - In the uplands

The Extension Service in Vietnam is fairly young. Many of the staff has previously been involved in state management of production, allocation of production quota and input supply. While in the lowland the continued focus on seed supply has been very successful, many obstacles are faced in remote mountainous areas, like Lai Chau. In view of highly variable production conditions – marked annual differences in weather, variations within small geographical areas – a different approach is needed. This new approach is often called "demand-based" or "community planning based" extension. It focuses on extension workers facilitating identification of suitable options for each individual farmer by giving him decision tools rather than prescribing technical solutions. And ready-made solutions do not exist.

Why is PAEM needed now?

PAEM approach is needed now, as there are an increasing number of technical options available. The farmer and the extensionist together have to determine what is suitable for each specific condition and have to work together on adjusting the technical management to its most appropriate level.

What is the main success of PAEM?

Through PAEM, farmers in Yen Chau have been able to quickly apply a new production technology, have been able to evaluate its technical and financial suitability. As a result they are convinced of the usefulness of some production technologies that they use their own funds for seed and fertiliser purchase. Government budgets are spent efficiently on introduction of new technologies, not on a permanent subsidy of uneconomic technical choices.

Could PAEM contribute to actually identifying new successful technological options that can become relevant extension contents and be applied at a wider scale?

In highly divers environments of the uplands "one fits all" technical packages does not exist. There is, however, a general difference between growing LVN10 in the delta and growing it on the mountain slope. With the current M&E system proposed in PAEM the information base of the extensionists on what crop management makes sense in the upland could be markedly improved and repetition of mistakes could be avoided. However, it is a long way before (i) data gathering is seen as sensible and done accurately, (ii) financial analysis is used to promote the economically sensible, not the technically optimal (10 t/ha are no benefit for the farmer if his revenues are eaten up by enormous expenditures), and finally (iii) the data is stored in a structured form and accessible fashion to allow for conclusions after evaluating a number of years.

What is the main limitation of PAEM to be used by other projects?

The introduction of PAEM in a new district requires step-wise coached application in a slowly expanding area. Considerable training inputs for extensionists have to be provided (see also Overview 1 in Chapter 5 on training approach). And the extension management has to agree to a strictly transparent financial management with markedly reduced options for profit generation. Further details see in Chapter 5.

What is the main problem of PAEM to be implemented by the Government?

The application of PAEM requires a change in the budgetary procedures of the extension stations. This change can only be initiated with substantial political support. The change can only be successful if intermediary steps are taken.

5. Issues for scaling up: How to start applying PAEM outside SFDP?

PAEM was developed over a considerable time period of 5 years in two districts (Tua Chua and Yen Chau). Once we felt confident that the main parts were in place to make the approach manageable and successful, we started to ask: How then can a district extension station start to implement this new approach?

In 2000, SFDP introduced PAEM in 3 districts outside the project area. Realising, that a slow expansion is
necessary, the following steps were taken by the management of AES during the first year in a district without commune extensionists:

**Box 4: Approach for applying PAEM in a new district**

- Secure coaching from an experienced PAEM extensionist (at least 1 visit of 3 day/month)
- Limit your first year activities to a few villages (e.g. 3)
- Secure a budget for pilot activities. This budget must cover initial training of staff, planning in the village (VDP), and implementation of some activities. Estimated budget requirements are in the area of around 3-5 Mio/village.
- Implement village development planning in those 3 villages keeping in mind which kinds of services the district will be able to offer (1 or 2 kinds of training courses, few trials on variety testing, planting density or fertilisation levels).
- Select as many activities chosen by farmers as you can finance and handle. Make a clear annual plan with assigned responsibilities, workplans and budgets.
- Use the planning tools: Detail quarterly, monthly and weekly plans base on the annual plan. Adjust them based on staff meetings where completed activities are reviewed.
- Discuss clear guidelines and manuals (monitoring forms) with the AES staff and commune extension workers using the existing PAEM material as starting points. Review further discussion and training needs to be able to apply PAEM.
- Design a training/discussion schedule for district for the first year based on training needs and considering the task division and materials and guidelines chosen.
- Adhere to administrative procedures and strict budgetary transparency to secure financing for the following year.
- Discuss and analyse in detail farmers’ responses to improve the technical options and the whole service package in the following year.

Based on the above experience, since January 2002 PAEM is expanded to Song Ma District in a co-operation with the EU Son La Lai Chau Rural Development Project. As there are commune extensionists in place the dissemination is done through training both for district extensionists and commune extensionists.

**Further literature:**

E. Forster, 2001, Status quo on agricultural/forestry extension and SFDP plan for 1999 to 2001 (3rd phase), SFDP Working Paper 4

E. Forster, 1999, Technical agriculture and agroforestry options for sustainable development promoted by SFDP in the Song Da watershed, SFDP Working Paper 5

Approaches to farmer-oriented agricultural extension: Experiences from Tua Chua district, Lai Chau province, Vietnam, AES Tua Chua, SNV, SFDP, EC Workshop on sustainable rural development in the Southeast Asian mountainous region, November 2000

Participatory Agricultural Extension Methodology in SFDP - AES Tua Chua, SNV, SFDP, Workshop in Dien Bien, June, 2000

Klaus Kirchmann, 2001: Consolidation of SFDP training approach, SFDP consultancy report.

**Notes**

2Special mention goes to Wim Spieringhs who has worked closely with the Agricultural Extension Station in Tua Chua from 1999-2000 and substantially contributed to completing PAEM for documentation.

3In districts with commune extensionists 1-2 villages per communes are probably a realistic start.