



Participatory Technology Development Working Paper 4

BUILDING CAPACITY IN PARTICIPATORY APPROACHES

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The ETC Ecoculture PTD group organizes on a yearly basis an internal study day. In 2001 the choice of the theme was PTD training in its widest meaning. Participants were invited to prepare and share a poster with experiences and learning points in PTD capacity building through training, coaching, monitoring and backstopping. The poster presentations were followed by sharing and free discussion on various related issues. Then the authors were asked to develop their poster into a more detailed paper.

This paper highlights the essential principles, methods and approaches of ETC training in PTD. The authors develop their experience in PTD training for four different projects: the Indigenous Soil and Water Conservation Project in Africa, the Promoting Multifunctional Household Environment Project in Sri Lanka, the Coptic Evangelic Organization for Social Services Project in Egypt and the Centro Ideas-ETC project in Peru and Bolivia.

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I. INTRODUCTION

In this paper, the word “extension” is not used in the original and conventional sense of extending or spreading technologies to farmers. Instead, it is used to refer to activities that encourage and support the (rural) population to mobilise their resources and to organise themselves for joint action. Basic elements of this concept are: participation by the population, development of local management capacity and enhancement of control over productive resources. Within this concept, technical advice and training is directed at stimulating local autonomy and self-management.

Training is linked to extension. Training and extension are integral parts of all ETC’s programmes and projects, whether in the field of agriculture, including urban agriculture, or in the fields of water supply, energy or institutional development. In addition to those project-related extension and training activities, ETC offers a number of training opportunities directed at human resource development.

The objectives of ETC are:

- to develop, test and promote participatory training and extension methods that can be used to support local initiatives;
- to train the staff of local, regional and national organisations (NGOs, government agencies, extension and research services etc) in the application of participatory approaches in development, training, extension, research and management.

ETC’s activities in training and extension are undertaken as a contribution to ongoing programmes. They are meant to assist development organisations to strengthen their capacity to plan, implement and evaluate training and extension programmes, using a participatory approach.

Training and extension activities supported by ETC are oriented towards ‘learning from one’s own experiences’. ETC applies this approach also within the own organisation.

This paper is compiled from an ETC internal seminar on experiences and learning points in Participatory Technology Development (PTD) training in its widest meaning. In fact, the PTD training may include activities such as: sponsoring, making logistical arrangements, networking and lobbying, providing training support in the form of trainers (and trainers of trainers), co-training, field facilitation, backstopping, etc. These experiences and learning points are tapped from different cases. The experiences discussed during the seminar were:

- Promoting Multifunctional Household Environments Project (PMHE) (Sri Lanka)
- Indigenous Soil and Water Conservation Project (ISWC) (Tunisia, Burkina Faso, Cameroon, Ethiopia, Tanzania, Uganda and Zimbabwe)
- PTD for Agro-Environmental Innovation (CEOSS, Egypt)
- Sustainable Agriculture Training of Trainers (IIRR, Philippines)
- PTD approach with NGOs (Centro IDEAS) in the Andes (Peru and Bolivia).

Four of the case studies (PMHE, ISWC, CEOSS and Centro IDEAS) are presented here as detailed examples to illustrate and analyse ETC’s experiences in building capacities for participatory approaches in agricultural research and development.

II. ESSENTIAL PRINCIPLES, METHODS AND APPROACHES OF ETC TRAINING IN PTD

It was obvious from the five cases presented at the seminar that ETC-supported training in PTD has a common approach, follows common principles and uses similar methods.

The PTD trainees also have their own knowledge and experiences in research, extension, facilitation, supporting farmer-led experimentation etc. One of the principles of the training is that these experiences should be valued and serve as entry points to the training sessions. This approach to learning based on experience includes four main steps (Ralph, 1997):

- **Reflection on experience of others:** A situation similar to the topic to be treated is shown to the participants. This gives a framework for reflection and facilitates the following discussion on the subject;
- **Conceptualisation of own experience:** Participants are asked to analyse their own past experience through case studies, role-plays, simulation, etc. This permits comparison of the different individual representations with the concepts that the facilitator introduces at this point;
- **Generalisation:** The participants make a link between the concepts introduced in the former step and their past experiences. This enables them to reflect critically on their own experience;
- **Application:** The participants are expected to apply in their working situation the concepts gained during the training session.

The focus being on skill development, the lessons are applied and practised within the actual course to the greatest extent possible.

Participatory learning methods like workshops, games, role-plays, case studies and small-groups discussions are applied in order to ensure maximum participation, following the adage "Practise what you preach". In other words, the approach used in the training gives an example of the approach that the participants are being prepared to use in their own work.

The PTD training is an iterative and long-term process of action-reflection-action. This principle is applied by staggering the training content into a series of training events. In crop-based agriculture, for instance, this means making use of consecutive growing seasons. Focused learning sessions are interspersed with field work/field assignments that allow trainees to practise in actual work situations what they learnt, and then to reflect on how they acted and obtain new ideas.

A second application of the principle is the alternation of the *in situ* and/or distance backstopping of trainees and follow-up visits. The *in situ* backstopping of trainees enables them to reap more fully the benefits of the training and to receive more and regular feedback about the application of the participatory approaches.

Institutional preparation is needed for the active involvement of the local research, development and teaching institutions and farmers. Attention is paid to raising awareness and stimulating reflection at various levels within the institutions concerned, including farmer organisations and local administrations. In order to create a favourable institutional environment for PTD, the training of PTD implementers is combined with the training and/or exposure of managers/policymakers and coordinators. The application of participatory approaches by field-level staff requires understanding by their immediate supervisors. For example, exposing the NGO directors and programme coordinators to the fieldwork makes them aware of the experiments going on and of the principles behind the PTD approach. If they are properly informed, they are more likely to support

an integration of the methodology into the approach and working methods of the institution.

External trainers cannot always do the training in participatory methodologies. This calls for training of trainers to gain training skills. The participants in PTD training are expected to play in their countries the roles of PTD facilitators or co-trainers during the subsequent PTD training sessions that are organised for researchers and members of institutions taking part in the PTD process at national level. Each programme builds-up local capacity for PTD training: training of trainer activities, joint training, module development adaptation, manuals in local languages, etc. ETC trainers give advisory support (“coaching”) in planning and evaluating these training experiences, sometimes on the spot, sometimes from a distance.

III. THE ISWC PROJECT BY JEAN-MARIE DIOP

1. Introduction

The four-year Phase II of the action-research programme "Indigenous Soil and Water Conservation in Africa (ISWC II) started in December 1996 and operates in the French-speaking countries Tunisia, Burkina Faso and Cameroon and in the English-speaking countries Ethiopia, Uganda, Tanzania, and Zimbabwe. It has received a budget-neutral extension from the funders (Netherlands Development Aid, DGIS) and is still operating in 2001.

ISWC II aims to improve the effectiveness of both indigenous and modern Soil and Water Conservation (SWC) practices through a process of joint experimentation involving farmers, scientists and development agents. The first step of the ISWC programme was the training of members of ISWC partner organisations and invited members from NGOs, government agencies and research institutes in Participatory Rural Appraisal (PRA) and Participatory Technology Development (PTD). The initial training in PRA and PTD started in 1997 in partner countries. In general, the PRA approach was not new for the participants (extensionists and researchers) but, for all of them, the PTD approach was not yet practised in their work situation.

The main objectives of the PRA/PTD training were the following:

1. to reflect on PRA/PTD: methodology/approach, methods/process and application in a real-life situation;
2. to prepare participants to practice PRA/PTD, with a focus on the required skills such as group facilitation and recognising and stimulating group dynamics;
3. to reflect on ways of promoting and training PRA/PTD in the different countries concerned;
4. to change attitudes of actors such as researchers and extensionists;
5. to introduce concepts and principles of participatory research and extension;
6. to train trainers (including some farmers) for consolidating and sustaining the PTD approach.

In view of the difficulties of gaining wide acceptance for PTD concepts, principles and processes, the last three objectives are particularly important but can be achieved only through a longer-term and iterative training process, rather than a one-off event. The activities related to the training and coaching revolve around a) capacity building for inserting the farmer innovation approach to PTD into ongoing activities in agricultural research and extension and b) institutionalising and thus sustaining the approach.

This section focuses mainly on the PRA/PTD training and coaching experiences in the ISWC-II programmes in Cameroon, Burkina Faso, Tunisia and Tanzania. Because the author's training and backstopping tasks were restricted to Cameroon, most details are drawn from that country.

2. Principles and methods for adult learning

The participants in the initial two PRA/PTD training courses in Zimbabwe and Burkina Faso, which brought together people from partner organisations in English- and French-speaking countries, respectively, were expected to play the roles of PTD facilitators in their own countries during the subsequent PTD trainings to be organised for researchers and development staff of institutions involved in the PTD process at national level. On

top of the PTD process to be mastered, the participants were expected to gain teaching skills for their future tasks of facilitation.

In the French-speaking countries, for instance, the preparation of the PTD/PRA training, the programme of the training and the choice of the adult-learning methods took into account the following considerations:

- Institutional preparation is needed for the proper involvement of the local research, development and teaching institutions and farmers.
- PTD trainees will have their own experiences in research, extension, facilitation, supporting farmer experimentation etc and these experiences should be valued and serve as entry points for the training;
- The trainer/facilitator should take an “add-on attitude”, complementing the elements drawn from the experience of the participants.
- The training should be evaluated on a daily basis and build on methods that enable the participants to take part in defining the criteria for evaluation;
- PTD training is an iterative and long process, in which field-based training activities should accompany consecutive growing seasons. This implies the staggering of the training content of a series of training events that involve heterogeneous groups (researchers, extensionists and some outstanding farmers, whether innovators or not). In addition, backstopping from a distance and *in situ* backstopping events run by consortium members should be planned intermittently and strategically throughout the whole PTD process.
- Innovations by farmers are good entry points into the PTD cycle (at the stage of “Looking for things to try out”).

To satisfy these principles, the teaching methods based on learning from experience were introduced to the participants at the beginning of the first PTD training session and were applied throughout the entire PTD/PRA training process. This refers to the principles outlined in the introduction to this paper: reflection on experience of others, conceptualisation of own experience, generalisation and application.

3. Training process: what actually happened

The application of the above-mentioned methods and principles for adult learning depends on the context. The implementation of this type of training must always deal with specific constraints in any given situation or at any one point in time.

The initial PTD trainings were planned at regional (international) levels, one in Zimbabwe for English-speaking countries and the other in Burkina Faso for French-speaking countries, both in 1997. However, because participants could attend the latter workshop from only Burkina Faso and Cameroon, a second introductory training in PTD training had to be organised the following year in Tunisia for participants from this country.

The choice of people who would participate in the PRA/PTD training was in the responsibility of each country involved. In preparation for this selection and for entry into the PTD programme, the lead agency in each country established links with other local research, development and teaching institutions and with farmers who were interested and/or experienced in participatory approaches to improving land husbandry. In two of the three French-speaking countries, the lead agencies were government research institutes; in the third, it was an NGO. In addition to people from the lead agencies, participants in the introductory PTD training came from partner organisations in each country: research and extension institutions and NGOs. Participants were chosen because they appeared to be open-minded about participatory approaches, or because

the role they (or their organisation) could play in the institutional aspects such as agricultural policymaking could have a positive impact on the farmer-Innovation approach to PTD.

The ISWC consortium members from NGOs based in the Netherlands and the UK trained a small group of individuals in PRA/PTD at the very beginning and these individuals were expected to play the role of PTD facilitators in their own countries and, although not all continued, some of these initial trainees formed the seed for a growing group of PTD trainers. For instance, four people from Tanzania were trained in the initial Zimbabwe workshop. Two have dropped out for various reasons. Currently, the ISWC programme in Tanzania has a team of ten PTD trainers, including the National Coordinator of ISWC-Tanzania, two trainers from the coordinating agency (Community College Moshi), three researchers and four extension agents.

In the case of Cameroon, however, where also four individuals attended the initial PRA/PTD training (in Burkina Faso for the French-speaking countries) and where also two dropped out for various reasons, it did not prove possible (why not?) to build up a team of local PTD trainers and the National Coordinator of ISWC-Cameroon was left almost alone in trying to facilitate the PTD process. For this reason, it became necessary to increase the inputs of the external advisor to Cameroon, who combined the backstopping of the PTD activities on the ground with additional PTD training sessions for new partners (researchers, extensionists and farmers).

In Tunisia, most of the participants in the initial PTD/PRA training were research-oriented. At the outset, the Tunisian participants were somewhat sceptical about the origin of the three PRA/PTD trainers (two from Senegal and one from Burkina Faso), as this was the first time for them to be trained by people from the South. The participants expected a conventional training, such as teachers give to pupils in a classroom. The questions in the mind of many of the participants were along the lines of: "What kind of knowledge can these black sub-Saharan guys bring to add to the very good knowledge of the Tunisian researchers and extensionists?" or "How can knowledgeable Tunisian researchers and extensionists deal with inexperienced local farmers?"

The three trainers regarded these difficulties as a challenge to be overcome by applying the above-mentioned adult-learning principles and methods. In other words, the experiences of the participants in research and extension were used as entry points for all the learning activities. Participants were repeatedly placed in a problem-solving situation. This gave them an opportunity to display first their knowledge and technical skills. Then they were guided gradually to analyse their experience, compare the different individual experiences with the concepts and principles that the trainers had introduced, make a link between these concepts and principles and their own experiences, critically reflect on their own experience and finally agree on a certain number of participatory concepts and principles to apply in their work situation. This approach was new for many of the Tunisian participants (mainly researchers) who used to consider only the technical and ecological aspects of any technology. On top of these technical and ecological aspects, the participants' eyes were opened to considering also the cultural and socio-economic aspects of any technology, in the development of which different stakeholders can be involved. The participants' attention was drawn to the fact that these stakeholders have different objectives, interests, capacities and skills, decision-making power etc. Hence, a negotiation process between stakeholders is necessary in order to arrive at an agreement that can be accepted by all.

In the end, the participants appreciated this approach to adult learning because they recognised that it was an effective way to complement the elements drawn from their

own experiences. They admitted at the end that they had been well trained in the course their own work.

The fieldwork during the initial training gave an opportunity for the practical application of PRA/PTD. The main difficulties observed by PTD trainers in the field were the lack of outsiders' consideration of farmers' rationale, knowledge, ideas, capacities and skills, and the lack of patience when dealing with farmers. In Cameroon, the PTD trainers overcame these kinds of difficulties by facilitating negotiation and dialogue between farmers and outsiders, by critically evaluating the practical application of PRA/PTD, by involving some outstanding farmers (whether innovators or not) in the subsequent PTD workshops and a Regional Workshop on Farmer Innovation involving all three French-speaking countries, by creating 'vertical' links between farmer innovators and researchers and extensionists, and by fostering and supporting the creation of farmer-innovator networks. This led to the identification of things that could be tried out jointly by farmer innovators, scientists and field agents.

In Tanzania, the negotiation and dialogue were even taken up to the level of the National Steering Committee (NSC). The presence and active participation of a farmers' representative in the NSC ensured that the farmers' voice and point of view were taken on board.

In Tunisia, however, because many of the participants were research-oriented, the process of negotiation and dialogue about things to try out still remains very slow. On the other hand, there was real success in heightening awareness of the farmer-innovation' approach to PTD by using local channels such as rural radio.

In Burkina Faso, participants in the PTD programme came from both research and extension organisations but the collaboration in the field between research scientists and extensionists was not effective because of the scientists' lack of consideration of extensionists' input into the PTD process and because of the scientists very research-oriented view of PTD. Planning meetings between scientists and extensionists had to be initiated by the external advisor. During these meetings, the participants resolved to "put the past behind them" and, as a result, joint fieldwork has been stepped up and support has been given to farmer-innovator networks in order to spread the local innovations.

ISWC-II Consortium members gave follow-up training/coaching. The training content was conveyed through a series of training and backstopping events. In Cameroon, for instance, the main tasks in the backstopping included:

- Assuming the task of main facilitator in a number of PRA/PTD training events which were organised for researchers, extension agents and farmers (innovators and non-innovators);
- Giving tailor-made training for field workers of the programme on ways to strengthen farmers' experiments;
- Making field visits followed with training on the job for field workers in order to overcoming problems encountered or to improve the monitoring and evaluation processes;
- Supporting the National Coordinator of ISWC-Cameroon in lobbying and institutionalising the PTD process;
- Giving support to students doing their thesis research in the framework of the ISWC programme;
- Distance backstopping for commenting on data collection and processing, seeking relevant PTD documentation and commenting on the documentation about PTD activities made in the partner country.

Another, quite different example of training and coaching can be taken from Tanzania, where the backstopper:

- Contributed ideas (by e-mail or during backstopping missions) during the planning stages of training events;
- Took part in some training events, facilitating a few sessions, but remaining mostly on the background, assisting with the evaluation of the day's proceedings and the planning for the next day.

For comparison, the PTD training process for ISWC II Tanzania is consigned in box 1.

BOX 1: PTD TRAINING PROCESS FOR ISWC II TANZANIA

- (Regional) Training of Trainers on PTD for “experienced” trainers
 Content:
 - PTD concepts, methods issues (farmer experimentation central focus)
 - PTD field exposure
 - Review Training fundamentals/basics
 - Experiential learning / Part. training
 - Facilitation Skills
 - Encouraging attitude change*Comment:
Training itself best example of PTD*
- Series of PTD Trainings by Tanzanian trainers for selected extension/research/farmers
 Content:
 Several on: basics of participation, local knowledge, innovation, PRA
 Several on: experimentation, design, M&E, group development, farmer-to-farmer sharing: how?
 Assessment:
 - Well designed, real part. trainings
 - Generally very slow training process
 - Development of above content by trial & error
 - In-depth understanding? took 3 years
 Backstopping/support ETC:
 - Comments on design electronically
 - Regular backstopping training-coordinator
 - Support designs just prior to trainings
 - Resource person --> research workshop

The “hard” products that were distributed during and/or came out the PRA/PTD trainings/workshops included:

- Reports on all the PTD trainings organised in the country;
- Materials developed during the workshops (which were used to further develop guidelines for staff training);
- Adapted training modules focusing on farmers' workshops, farmers' experimental design workshops, making planning maps, monitoring and evaluation, identifying and characterising farmer innovators and innovations etc.
- Course materials including PTD readers and handouts;
- Recommended books such as *Farming for the Future*, *Developing Technology with Farmers* etc.

4. Impacts of the PRA/PTD training

The impacts of the PRA/PTD training can be seen at three levels: palpable “products”; the change in some operations of research and extension activities; and changes in attitudes of actors as well as empowering farmers.

Palpable “products”

Now, four years after the ISWC programme began, people associated with the programme in Cameroon are regularly asked by other NGOs to facilitate their training sessions. With respect to institutionalisation, the National Coordinator of ISWC-Cameroon has started to train the staff of the World Bank-supported National Extension and Research Programme (PNVRA) in the farmer-innovation methodology. Recently, farmer innovators from the village of Babanki, where ISWC-Cameroon has been supporting farmer-led experiments on night-paddock manuring (Tchawa et al. 2000) have been appointed as local farmer trainers in this technique by a Dutch (SNV)-funded programme (Ngie Project). These examples suggest a certain impact on national training capacities.

After the initial PTD training workshops, which were facilitated by the members of the ISWC Consortium, the national PTD facilitators – in most cases – took over the subsequent PTD workshops in their respective organisations and involved other sister organisations (NGOs, government extension services and research institutes). This was a successful way of spreading the PTD approach within each country, where there has been a constant demand for PTD training from the side of other organisations.

The PTD/PRA training focused on farmer innovations as good entry points into a PTD cycle and innovative farmers have been encouraged by the recognition they have received. The consequence was the identification of about 1000 innovations by the seven countries in the ISWC programme. The identification of these previously little known or unknown innovations created a wide awareness of farmers’ knowledge and skills. It also made farmer innovators more confident and at ease about their capacities and knowledge when dealing with outsiders.

Subsequent PRA/PTD trainings were organised not only for formal researchers and extension agents but also for farmer innovators/experimenters. Through ISWC –II, farmer innovators/experimenters have been trained in methods of records keeping, which can even be used by an illiterate person.

The incontestable impact in the side of the end-users (farmers) is grassroots capacity development. The PTD process has boosted farmers’ self-confidence and self-help capacities. In Tunisia, for instance, the innovators start friendly competition among themselves and with researchers from the national research institute for arid areas. This contributed to increasing farmers’ capacities to innovate and to experiment. One can quote also the case of the three farmer innovators of the ISWC programme in Cameroon who have been given awards at Department and Provincial levels by the Agro-Pastoral Committee of West Cameroon.

The PRA/PTD training promoted regular interaction between PTD stakeholders. For instance, the Regional Francophone Workshop in Cameroon was an opportunity for discussions among farmer innovators, between farmer innovators and policymakers, farmer innovators and researchers/extensionists etc. All stakeholders were given the opportunity to develop and discuss their ideas and views. This created a change in the nature of relations between the various stakeholders. The market for displaying innovations that was set up by farmers during the workshop also provided an opportunity for promoting and diffusing farmer innovations. It was also an opportunity for policymakers and the news media to recognise the relevance of the farmer innovation

approach to PTD for agricultural development and the spread of appropriate technologies.

Research and extension processes

The PRA/PTD training and coaching led to positive impacts related to the application of the PTD concepts and principles in research and/or extension, which sometimes contradict the conventional methods and approaches.

The farmers' experiments were conceived, implemented and monitored jointly by scientists, extensionists and farmers, with great success. These experiments were designed on the basis of farmers' ideas and/or innovations (for instance, the night-paddock manuring system in Cameroon). This shows that "outsiders" (researchers and field agents) are no longer the sole source of information (knowledge, ideas, capacities and skills) about options or things to try out when experimenting. Farmers' ideas/innovations are now also being recognised as good entry points for research and/or extension.

Another impact of the PRA/PTD training and coaching has been to bring researchers more fully into the picture, to complete the Farmer-Extension-Researcher triangle and to strengthen the processes of innovation and validation and joint experimentation. Farmer experimenters and field workers gained a lot of knowledge and technical skills through the process of joint experimentation.

In the conventional Training-and-Visit approach to agricultural development, the main role of the extensionists is to transfer to farmers the technologies that had been devised by scientists. Most of the time, those technologies are not appropriate for the situations of small-scale farmers.

The PRA/PTD training and coaching emphasise the roles of the different actors in the PTD process. The PTD/PRA training is changing the approach taken within research and extension. Through the PRA/PTD training, so closely intertwined with the PTD process, the extensionists identify the innovations that were already developed by farmers. Extension agents and researchers who are open-minded to PTD then participate in planning the joint experiments and help farmers to monitor the experiments. Extension agents also organise farmer-innovator workshops and farmer-to-farmer exchange visits.

In Cameroon, for instance, the main role of the PTD researchers is to help farmers evaluate and improve the local innovations and to help make the farmers' experimentation more systematic, so that they can better interpret the results.

The PRA/PTD training and coaching gives attention to various potentially relevant tools for each PTD step. An example is the favourable role played by the rural radio in Tunisia and the press in Cameroon in diffusing appropriate technologies developed by and/or with farmers.

Changing attitudes and empowering farmers

The PRA/PTD training also gives attention to the necessity to change the attitudes of all stakeholders. In Burkina Faso, for instance, the PRA/PTD training made a real change in the attitudes of researchers to the extent that they take farmers' ideas into consideration in their research protocols and designs, they actively involve extensionists in the monitoring of research and they share their findings with their colleagues, including their farmer colleagues in research. In the part of the field agents, one can notice better communication and listening skills gained through the PRA/PTD training and process.

As mentioned above, government services have started to consider farmer innovations as another source of ideas for extension and/or research.

The Regional Francophone Workshop showed that the media and policymakers in Cameroon are now prepared to consider the farmer innovation approach to PTD as a relevant development approach.

An example of the impact of the PTD training and process on empowering farmers can be given from Tanzania, where the ISWC programme organised a one-day sensitisation workshop in September 2000 for all researchers at Uyolet Agricultural Research Institute. Thirty from that institute, plus two from other research institutes, attended the workshop. Originally, the two senior researchers involved in the ISWC programme had planned to make a "scientific" presentation, but the National Coordinator organised the day in such a way that the researchers took the back stage. At centre stage were the farmer experimenters, a woman and a man. The respective Village Extension Officers also explained their role in the joint experimentation process.

Another example comes from Cameroon, where the identification of innovations led to farmers asking the ISWC programme to help them set up farmer-innovator networks for mutual support. Three have been created thus far. These grew out of the progressive acquisition of self-confidence and self-reliance by the farmers in the PTD process. Now, the ISWC programme has directly linked the networks of farmer innovators. The dynamism of these networks is a sign that they have taken ownership of the PTD approach. This dynamism can be seen, among other things, in the progressively greater initiatives being taken by farmers to negotiate collaboration with scientists instead of (as used to be the case) waiting for the scientists to find solutions and bring them to the farmers. The networks of farmer innovators have also pointed to the buffer role that they can play in counteracting the existing top-down approach of many NGOs in Cameroon.

5. Major lessons learnt and conclusions

The ISWC-II programme aimed to improve the effectiveness of indigenous and modern SWC practices through a process of joint experimentation involving farmers, scientists and development agents, based on local innovation. Starting from the PRA/PTD training (and coaching) of researchers and extension agents, ISWC-II successfully promoted participatory research on local practices and innovations in SWC, assisted in disseminating the results and supported lobbying platforms to show policymakers and donors that building on local innovation is a promising path to development. The success of the programme was due to many favourable factors, including an iterative process of PRA/PTD training and coaching, from which a number of lessons can be drawn.

The PTD training should build on the trainees' own experience in their work, complemented by inputs from the trainer/facilitator. Organising PRA/PTD training for mixed groups (researchers, extensionists, farmer innovators etc) favours a sharing of different experiences. This heterogeneity in the trainees requires some preparation within the institutions of research, extension and education in order to ensure equitable participation of farmers. Farmer innovations are good entry points into the PTD cycle. The PTD training should focus initially on individuals who are open to participatory approaches. Within their organisations, these individuals become valuable contact persons for further collaboration. In order to create a favourable institutional environment for PTD, the training of PTD facilitators should be combined with the training and/or exposure of managers/policymakers and project coordinators. The fieldwork and/or field-based activities provide an opportunity for practical application of PRA/PTD training. PTD training is a long process in which field-based training activities covering

consecutive growing seasons are very important. This calls for spreading the training content over a series of training and *in situ* or distance backstopping activities.

Considering the impacts and lessons learnt as described here, there appears to be great potential in the approach promoted through the PTD/PRA training and coaching: partnership between farmers, researchers, extensionists and other stakeholders in technology development. However, another challenge remains ahead and that is the challenge of making a more formal evaluation of the PTD/PRA training. Post PTD/PRA training evaluation is a relevant challenge ahead.

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IV. THE PMHE PROJECT BY MARGA DE JONG

1. Introduction

The Promoting Multifunctional Household Environments (PMHE) Project has been operational in Mahaweli System C since 1991, under the purview of the Mahaweli Authority of Sri Lanka (MASL). It is a bilateral development cooperation between the Netherlands and Sri Lanka, with consultancy services provided by ETC-Lanka (pvt) Ltd.

The task entrusted to PMHE in entering Mahaweli System C was to develop a strategy for sustainable development. In the first 3–4 years, PMHE's attention was largely devoted to working intensively at grassroots level in fulfilling this task. Having developed the broad lines that form the core of the strategy based on settler participation, the focus since 1995 shifted to replicating it within the Mahaweli institutional set-up and adapting it accordingly. During the last three years, PMHE has, against many odds, pursued this goal and is confident that participatory development can be realised within a large state-sector organisation like the MASL.

2. How did it start?

PMHE's initial interactions with farm families in Mahaweli System C began in two selected units of this System. During this initial phase, the "real" constraints to development that were identified by project staff in close consultation with farm families were:

- the Mahaweli Authority was used to a "blueprint" approach to development, which excluded farmer participation;
- dependency on the MASL led to a loss of self-confidence and self-reliance among the farmers
- lack of appropriate agricultural experience among farmers to maintain productivity resulted in widespread indebtedness
- poor social cohesion and weak organisational capacity adversely affected the local-level farmer groups.

From the beginning of the project, it was obvious that development efforts could not be sustained without the participation of farmers. This change could be brought about only if the main actors involved, in this case the farmers and the MASL staff, were willing to and capable of participating. Farmers had to regain self-reliance, take over responsibilities and manage their own affairs, whilst the MASL staff had to become facilitators in this process – recognising and respecting the knowledge of farmers and supporting them to become self-reliant.

This required capacity building – at the local level with farm families and at the institutional level with MASL staff – not only to gain relevant skills, but also to effect necessary attitudinal and behavioural changes. As such, capacity building became the focal point of the project.

3. Capacity building through training and backstopping

The main challenge faced by Mahaweli staff in adopting a participatory approach is in taking on the role of facilitators. Farmers have to be given the central role in their own development, whilst the facilitator provides support, encourages, builds up skills etc.

Such a role reversal is brought about through a process of capacity building, which follows two main steps: training and backstopping.

Training

Approximately 100 training workshops in participatory approaches were conducted during the period January 1995 to June 2000. This included full-fledged training workshops as well as periodical refresher sessions. The staff categories included in the training came from all layers in the MASL structure from unit to head office level, and the subject matter varied accordingly. PMHE's contribution to these programmes was in many forms: sponsorship, logistical arrangements, collaboration with various Mahaweli agencies in selection of trainees, providing training support in the form of trainers, co-trainers and field facilitators etc. Training was conducted in the following areas:

- Participatory Rural Appraisal (PRA) – focusing on building rapport with settlers and involving them in situation/problem analysis;
- Farm Planning for sustainable farm development (FP) – paying attention to optimal use of available resources in a systematic, planned way;
- Participatory Technology Development (PTD) – concentrating on recognising and harnessing farmers' knowledge in a process of joint experimentation;
- Community Mobilisation (COMMOB) – focusing on attitudes and skills to be built up in order to empower farmers;
- Organizational Development (OD) – promoting strengthening of community organisations, as a follow-up to the COMMOB training.

Training in terms of subject matter

PRA and participatory approaches to sustainable agriculture (PTD and Farm Planning for Low-External-Input and Sustainable Agriculture or LEISA) were the initial programmes in which training was conducted. PRA training was considered pivotal for all categories of MASL staff, as it focuses on developing attitudes and skills required in facilitators. Continuing from PRA, PTD was important to develop the capacity of MASL field officers to interact with farmers in finding solutions to their specific problems through a process of joint experimentation. Training in FP imparts the skills and the knowledge required for an extensionist to guide farm families through a systematic process of planning their farms, using available resources optimally. These three subject areas dominated the training agenda in the first three years of training.

As field staff began to work in closer collaboration with farmers, the need for better facilitation and group moderation skills for community strengthening emerged. Training workshops in Community Mobilisation (COMMOB) and Organisational Development (OD) were a response to this need and were conducted in 1998 and 1999. Participatory Monitoring and Evaluation (PME) was an integral part of each of the above-mentioned subjects and focused on finding simple systems of monitoring and evaluation with farmers. Gender was another aspect that encompassed all subject areas and helped officers to understand the different roles and responsibilities of men and women in development activities, and thereby to ensure active participation of both parties.

Training in terms of staff categories and location

In a large, multi-layered, hierarchical organisation like the MASL, selection of staff categories was crucial to achieving the required impact of wide-scale application of participatory approaches. The first priority in this respect concerned those who worked directly with farmers at unit level, namely Field Assistants and Unit Managers. Application of participatory approaches by field-level officers required understanding by their immediate supervisors. Hence, the next category of staff that needed to be trained were Agricultural Officers, Community Development Officers and Institutional Development Officers at Block level. Block Managers, who coordinated all development work, were also given orientation in participatory approaches. Human Resource

Development Officers, who were attached mainly to the training centres and whose main responsibility was training, were a major category included in all training programmes. Several programmes, some specially tailored, were targeted at the middle- and higher-level managers of the MASL.

Contents of the training varied according to staff category. Field and block level staff was given intensive training, with a large component of fieldwork. Such workshops were of a longer duration and went into greater detail. Shorter workshops or discussions, which generated awareness on participatory approaches, were used for managers. As opposed to field staff that underwent 10-day rigorous PRA training, managers were exposed to a 5-day orientation programme. The same applied for PTD and FP – field level officers went through 5-day workshops in these subjects, whilst 2-day orientations were organised for managers. PMHE's mandate was limited to training MASL staff of System C. With increasing awareness of the relevance of participatory development within MASL, the demand for staff training grew and spilled over the borders of System C to all the other systems. By extending its training to all systems, PMHE laid the foundation for wider application of participatory approaches.

Training in terms of methodology

The training organised by PMHE differed significantly from what MASL staff had undergone before. Moving away from the conventional "top-down" courses focusing on transfer of information, the training in a workshop style created an atmosphere of active learning. Experiential learning was given strong emphasis, with field assignments providing opportunities for trainees to acquire skills and develop insights independently. Focused learning sessions were interspersed with fieldwork that allowed trainees to practise what they learnt, and then to reflect on how they acted. Such a reflection helped trainees to go deeper into the subject and to gain new insights. Each workshop created situations for trainees to interact directly with farm families. Assignments with farm families, visits to resource farmers and brainstorming sessions with farmers were all means of developing the relevant attitudes and skills, such as respecting farmers' knowledge, dealing with gender issues, stimulating creative interactions with farmers etc.

Training of trainers

Being conscious of the fact that training in participatory methodologies cannot always be done by external trainers, PMHE began, already in 1995, to identify potential trainers from within MASL, who could be groomed for this task. Training-of-trainers workshops were organised in all the core subject areas. After gaining training skills, these officers were given the opportunity to gain on-the-job experience by being co-trainers in the relevant programmes.

Development of training curricula and manuals

Another important activity was the preparation of systematic training guides for use by MASL trainers. An outline of a curriculum was made for Community Development, which was discussed and adjusted to function as an example. Curricula for the other subjects were prepared accordingly. Detailed session plans per curriculum were then worked out through a similar process. Each curriculum was tested and fine-tuned through pilot training programmes. Having completed the English versions, PMHE embarked on translating them into Sinhala, an equally intensive activity. Most of the translation was done in-house by PMHE trainers, adjusted whilst conducting training, and completed. Workshops for orienting the trainers on using the training manuals were conducted before handing over the manuals to the respective sections of the MASL.

Backstopping of field staff

Very early on in the process of training, PMHE noticed hesitation on the part of trained staff to apply the newly gained knowledge and skills. Although training workshops provided some “hands-on” exposure through short field exercises, it was obviously not sufficient to build up the confidence required to embark on application in the field. Even the more adventurous among the trainees dared only to take small steps in trying out what they had learnt. Backstopping was essential to reap the full benefits of training. Another aspect of backstopping was in encouraging managers to get more feedback from their field officers who were applying participatory approaches by putting this on agenda of meetings.

Backstopping evolved over the period and depended on the availability of PMHE staff, requests from MASL, type of training etc. The backstopping activities included:

- **Sharing sessions for trained staff:** these were usually one-day sessions at which staff – trained and not yet trained – could openly exchange their experiences;
- **Post-training refresher workshops:** these were held per subject area and were more structured, dealing with problems of application faced by trainees in the field;
- **Joint monitoring of post-training assignments:** this was common in the case of Farm Planning and PTD. At given times during the agricultural seasons, visits would be organised to provide follow-up to field officers implementing these assignments, together with their superiors, the Agricultural Officers;
- **On-the-job guidance to trained staff in routine MASL activities:** this was an intensive form of support given to MASL staff of System C. PMHE staff joined MASL officers in their regular field programmes, mainly in the role of observers, helping out if and when necessary. On-the-job guidance of this manner proved to be very effective in building up officers to be excellent facilitators of a participatory approach.
- **Training Impact Assessment:** this was used to gain one systematic overview on the performance of trained staff – both in applying learned skills and in changing attitudes. Such an assessment was also expected to show up gaps that needed to be filled through backstopping or adapted training.

Training for middle-level managers

Field officers who began to adopt a more participatory working style needed to be understood and supported by their superiors. In the MASL hierarchy, the first level of managers that deals with field officers is that at Block level.

Institutional Development and Organisational Strengthening (ID/OS) was considered a very appropriate tool for Block Managers. The participatory principles of ID/OS training were intended to stimulate the Block Managers to take a more positive look at their situation. Changed thinking was to result in appropriate action that would begin the process of managing participation. A series of training workshops in ID/OS were conducted in 1998 to train these managers.

Backstopping middle-level managers

Following the training, the Block Managers were supported in initiating activities based on ID/OS at block level in aspects such as:

- Facilitating the use of the “institutiogram” as a tool for analysing the activities of the Block Office in relation to all actors and for finding areas for networking;
- Analysing the tasks and skills of Block staff to determine a more efficient use of human resources;

- Identifying the priority areas of development for re-organising the Block to function more effectively and efficiently;
- Identifying the training needs of the Block in relation to the tasks to be carried out;
- Incorporating participatory action planning for the preparation of annual and seasonal work plans.

These interactions began, slowly but surely, to give Block Managers confidence in applying participatory approaches to management.

Support to on-the-job planning sessions

Furthermore, Block Managers were supported with the facilitation of Block planning exercises, so as to integrate the priorities and plans of farmers. In some Blocks, a team-building session was held prior to the planning exercise. In most cases, this was the first time that all Block staff had come out of their compartments to prepare an action plan together. Genuine enthusiasm was observed as staff members set a common goal and found ways and means of achieving it through pooling of resources, irrespective of the department or sector. Regular sessions for monitoring the plans in a participatory manner were also scheduled.

4. Impact of this capacity-building programme

Impact at field level

The qualitative impact of the intervention in training and backstopping MASL staff is even more impressive than the quantitative one. The transformation that has taken place in the attitudes of the field officers is remarkable – partnership has replaced paternalism, farmers are no longer considered as recipients of development benefits, but as active partners in the development process. Officers in various spheres of activity – in agricultural extension, irrigation management, strengthening of farmers’ organisations etc – are using participatory methodologies. Creative ways of using participatory tools have been reported from all Mahaweli Systems.

An independent study carried out in the latter part of 1999 by the Department of Agricultural Extension of the University of Peradeniya, Sri Lanka, looked into the effectiveness of training in participatory extension methods/tools on the working styles of Field Extension Officers (FEO). PMHE was one of three projects included in the study of training provided to field officers of the MASL. The study concluded that FEOs had learned new methods/tools relevant to their day-to-day activities and were using them in extension activities with farmers. Both farmers and superior officers had experienced favourable changes in the behaviour of FEOs in interaction with their clients, the farmers, articulated as being friendlier towards them and respecting their views. More than 75% of the FEOs interviewed during the study were positive about the training received and agreed that they gained greater job satisfaction by using participatory methods and had increased their extension coverage with farmers.

Such impressive changes at field level have attracted the attention of higher-level managers, who have had to admit the potential of a participatory approach to development. It is not surprising that credit is given to PMHE for having set in motion a process whereby the thinking of the MASL as an organisation has changed in favour of farmer participation.

“To our knowledge PMHE and MASL are the first organizations worldwide that have developed participatory methods up to a level that it can be applied by extension staff as a routine job. This is by no way a simple task. One should remember that applying

participatory methods is a great shift in working culture, comparable to learning a new language. At first one can stammer a few words, but it will take a lot of exercising to speak a new language fluently. Similarly, it takes time for field staff not only to apply participatory “tricks”, but also change attitudes towards farmers. The evaluation team thinks that developing a routine training target for field staff regarding participatory methods is an enormous achievement that witnesses the professional character of both PMHE and the linked sections within MASL.”

Source: Report of the mission “Evaluating the impact of the strategy (approach) developed by PMHE in System C and its applicability for the Mahaweli areas in general”, July 1999

Impact at Block level

The support was appreciated by most of the Block Managers, who were faced with the dilemma of changing from a “top-down” to a more “participatory” manner of operation. Field officers, who were now convinced of working in partnership with farmers, welcomed the move. There was a marked increase in motivation of staff in the Blocks that undertook ID/OS activities. Barriers that had existed between staff because of specialisation (agriculture, irrigation, institutional development etc) were broken down as staff took on participatory planning and monitoring as a means of reaching common goals. Team building sessions helped forge closer ties among staff and improve communication. For the first time, MASL staff began to look beyond its borders at other development actors in the area.

5. Main lessons learned and conclusions

The main lessons learned based on experience and expertise of nearly nine years of intervention are summarised in the preceding sections of this paper.

In addition: what PMHE undertook in the Mahaweli Authority was, primarily, a task of transforming people – changing their attitudes and perceptions through a continued process of capacity building. But it was not only PMHE’s ideals that helped to build a strong team that assured the project’s success. It was a combination of many other factors. The high level of participation that was achieved within PMHE is one such factor. Not only was PMHE able to preach “participation”, it was also able to practise it in-house. This enabled PMHE to bring out all the individual experiences, ideas, knowledge and skills and consolidate them for achieving a team goal. Learning together helped the team to grow together and stronger and to face common challenges. The high degree of flexibility afforded to the team was instrumental in putting this learning into action. PMHE’s desire to share freely with others should also be mentioned in this context. By having this open and teachable attitude, PMHE was able to exchange experiences and build fruitful partnerships. The comments and criticisms were always welcome and prevented PMHE from being inward-looking.

A participatory approach to development, as described in this paper, is a process that enables the farming community to gain the confidence and independence it needs to function in and carry these responsibilities. This process, as PMHE has experienced, is long and arduous and requires substantial time and investment. If the MASL maintains the enthusiasm and the commitment it has now, and has access to the external expertise required for certain aspects of internal re-organisation, there is no doubt that it can meet this challenge.

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V. THE CEOSS PROJECT BY PETER LABAN

1. Background

CEOSS (Coptic Evangelic Organization for Social Services), an NGO in Egypt, is making important steps in a major process of change towards enhancing the self-reliance of its target communities. CEOSS exists since 1950 and works on social and economic enhancement with a development sector of 80 staff in about 50 rural towns in the Nile Valley and in several slum areas in Cairo. In 1995 it decided to start a process to come to more integrated and participatory approaches to their agricultural and environmental (waste!) activities in rural areas in the Nile Valley. In a pilot project in Sharouna and El-Nasserya, PTD was used as an important vehicle to shape LEISA synergy in solving garbage problems in small rural towns and in finding ways to replace chemical fertilisers in intensive cropping systems. CEOSS development staff facilitated the PTD process with guidance from ETC. The pilot project was funded by NOVIB and ICCO from The Netherlands. A participatory decision-making process with women led to an important innovation to assure cleaner stables and living quarters. By concentrating organic household waste, manure and urine in a pit in the in-house stable, an organic fertiliser is produced that probably has much higher nitrogen content than the traditional manure. Further experiments may well lead to an improved compost needed in agricultural fields where farmers are seriously trying to decrease their chemical fertiliser inputs by experimenting with different combinations of fertilisers. At the same time, the recycling of garbage through improved stables is resulting in considerable savings in women's time, improved health conditions and income-earning opportunities for women. The project strategy builds heavily on a PTD approach, focusing on experiments with garbage recycling by women and improved use of fertilisers by farmers.

2. How did it start?

Participatory Rural Appraisal (PRA) and Objective Oriented Project Planning (OOPP)

A project preparation process started in March 1996 with a PRA in Sharouna and El-Nasserya, two rural towns with 30,000 and 10,000 inhabitants, respectively, to prioritise problem areas and assess gender roles. The PRA among 75 households in the two villages, implemented by CEOSS staff¹, demonstrated in a very clear way that disposal of household waste-water and garbage were by far the most important problems for the women, while the male farmers gave high importance to reducing the cost of chemical fertilisers. The outcome of this PRA was further discussed with the communities and their leaders and led to consensus at the community level to orient the pilot project on these issues. These decisions guided the project proposal made during an OOPP workshop in May 1996 by a CEOSS team in Minia, bringing together staff from both the Local Development Sector and the Special Services for Agriculture and Environment. CEOSS staff opted for a PTD approach, in which the farmers' and women's groups to be selected would still have the freedom to select other priority problems to be tackled when implementing the pilot project. This flexibility was incorporated in the project proposal and endorsed by the funding partners at the end of 1996.

¹ Soumaya Ibrahim Huber, a social development and gender specialist from Cairo, and Peter Laban from ETC Ecoculture, The Netherlands, guided the PRA. The latter facilitated the subsequent OOPP workshop.

Initiating the PTD process

Implementation started in January 1997 with a PTD training workshop for CEOSS staff, which included a farmers' experimental design workshop with one of the three selected groups of farmers. The communities, with the backing of the community leaders, selected the three farmers' and six women's groups. The training workshop with CEOSS staff focused on the principles and design of PTD processes (Why PTD?; comparing PTD with Farming Systems Research and transfer-of-technology extension – the World Neighbors' role play of Moussa and Oumarou in Mali; elaborating and explaining to others an own definition of PTD, the six steps in the PTD framework), on communication techniques with villagers (exercises with controlled dialogue/careful listening; closed, open and probing questions, "do says" and "don't says" in PTD), and on preparing the farmers' experimental design workshop. A staff member of ETC, who guided CEOSS staff members in this first design workshop in order to increase their confidence in facilitating subsequent design workshops, facilitated the training workshop. Box 2 shows the farmers' experimental design workshop was structured. This workshop was followed-up by four additional training days with CEOSS staff to review what happened, prepare the subsequent design workshops, and focus on gender and experimental design issues.

Box 2: Looking for things to try – a PTD module for designing experiments with farmers

Objective: To reach agreements on what to find out and what to try out

Tools: Resource-flow diagrams; problem tree; PRA ranking tools

Procedure:

- Community meeting for commitment and endorsement of experiments
- Drawing resource flows for farm enterprises (flow diagrams)
- Identifying problems and options to solve them (pair-wise ranking)
- More detailed problem analysis (problem tree)
- Orienting the farmers' experiments (ranking)
- Agreeing on detailed design of the experiments (treatments, layout, monitoring etc)
- Project idea-sheets

Notes:

- This module corresponds to Step 3 in the PTD process; it also covers part of Step 2.
- Such a module *should* be preceded by PRA problem identification and priority setting at community level

Source: Jean-Marie Diop (ETC-NL) and Peter Laban (ILEIA), 1997

3. Implementation of experiments and innovations

In the course of the following four months, the CEOSS team conducted similar design workshops with the other two farmers' groups and six women's groups from the two rural towns. On the basis of these workshops, innovation and experimenting activities with farmers' and women's groups were carried out.

Farmers "took hold of the decision stick and of the process" very quickly, limiting CEOSS' role to one of advice and facilitation, among other things, asking for the

services of a soil fertility expert from the National Research Centre (NRC) in Cairo. On the request of farmers, soil analysis was made in their experimental plots to guide the different treatments to more balanced combinations of chemical fertilisers, biofertilisers and/or traditional manure. Smaller groups of farmers with similar field conditions were formed – also on the basis of the soil analysis – to compare and discuss progress, difficulties and results.

Design workshops and further discussions with the women took more time. In view of the important cultural, social and gender implications of possible changes in an age-old system of dealing with cattle, waste and manure, this is not surprising. CEOSS staff took all the time necessary to make sure that decisions were really owned by the women's groups and to look for possible solutions tried out elsewhere. Visits were organised for the women to Minia, Cairo and Alexandria so that they could see other experiences and projects. This was in itself an important event, as most of the women had never left their village before and were being exposed for the first time in their lives to other situations and ideas. CEOSS staff has tried this before, but rather unsuccessfully. This time, they gave high credit to the PTD process for making this possible. The making of drawings and subsequent discussions by women within smaller groups on the garbage problems and possible solutions were probably also very important in this. After a careful and participatory process of workshops, discussions and visits to other places with the six women's groups, the women finally decided in May to try out two possible solutions for the garbage/manure disposal problem.

The one that proved most successful consists of collecting manure, straw and urine from the stable and other organic waste and kitchen ash from the house in a pit built in the stable itself, while the floor of this stable was redesigned with a slight slope. The experience and advice of an expert from NRC in Rural Waste Technology proved to be very valuable in exploring different possibilities with the women's groups. By doing this, organic fertiliser is produced that probably has much higher nitrogen content than the traditional manure. Further experiments may well lead to an improved compost needed in agricultural fields where farmers are trying to decrease their inputs of chemical fertiliser by experimenting with different combinations of fertilisers. At the same time, the recycling of garbage/manure recycling through improvements in the stables saved the women much time by reducing considerably their daily tasks of bringing soil from the fields to dry the stable and carrying household waste to the garbage dumps near the riverside. At the same time, it became easier to clean the stables, making it unnecessary to wash the animals everyday at the river or the irrigation canals. Moreover, the cleaner stables and animals make it possible to obtain much cleaner milk and to improve the health conditions of both animals and humans. Also the men benefit from this innovation, as they do not have to carry manure everyday to their fields while (although this has still to be demonstrated) they feel that they will get a much richer manure than before.

Another solution for families without cattle and often very little land consists of setting up a big plastic container (\pm 200 litres) with small holes in the bottom and a small door on the lower side to take out composted materials. The containers are second hand and bought at relatively low cost (120 EGP or ca. 28 USD). The construction of the pits in the in-house stables now cost 280 EGP (ca. 66 USD) but cost can be greatly reduced when the people themselves provide the bricks and the labour needed.

4. Further capacity building through training and advice

This was basically a learning-by-doing process both for the experimenting groups and for CEOSS staff. It was supported by two other training workshops for CEOSS staff,

facilitated by ETC in September 1997 and March 1998. The September workshop focused on reviewing the PTD process and drawing out lessons learned thus far and on LEISA principles and applications, including also field exercises. The workshop in March was originally not planned and budgeted, but strongly requested by CEOSS to give extra attention to process documentation (how to document what happens and what can be learned from such experiences) and to issues related to scaling-up and institutionalising the PTD process.

5. Lessons learnt, constraints and how these were overcome

Although this pilot project has made a promising start, important issues need further attention. The PTD process in the two communities supported by CEOSS has certainly also encountered a number of constraints. The main ones were the following:

Weak involvement of government extension staff

It appeared to be very difficult to interest and involve government extension staff in the PTD process. This is mainly due to the very poor working conditions of such staff while, in the limited budget for this pilot project, no provisions could be made for their involvement. However, CEOSS is aware of the necessity for this and has included training and field activities with government in a follow-up proposal with ICCO and the European Union (EU).

Weak involvement of researchers

Two researchers of NRC were involved in the implementation phase of the pilot project. Having not participated in the initial PTD training and participatory decision-making with the villagers on priority issues and experiments, they had difficulties to adapt to this participatory mode of working and had a tendency to impose their own solutions – with regard to both stable innovations and the fertiliser experiments. The first year, the fertiliser experiments were too complex with too many factors involved. It was therefore not easy to differentiate between the effects of a more balanced application of chemical fertilisers and those of organic and biofertilisers. The farmers recognised the difficulty of drawing conclusions in this way and simplified the design the next year. After a while, the two researchers discovered the advantages also for their own interests in paying attention to villagers' views, as this would make possible solutions much more acceptable and effective. It remained, however, a question to what extent, in the very hierarchical society of Egypt, it is wise to involve scientists in a very early stage of the process, as it was felt a risk by CEOSS that their opinions would burden too much the analysis and decision-making process with farmers. Of course, CEOSS has an important intermediary role to play here.

Cost of the stable-innovation (who pays?)

At the start of the PTD process, CEOSS contributed a large part of the financial investment in the improved stables. This innovation, also due to the considerable gains in time, health and position of women, was so successful that many other families became interested in it. Pilot project funding was not sufficient to replicate the innovation in many more households in the two pilot towns, not to mention other rural towns and villages. Moreover, if such an innovation were so much wanted, it would be justified to increase considerably the contribution of the family itself to this investment. CEOSS resolved this through community discussions on the issue, making it clear that it would also be beyond their capacities to continue contributing 75% of the cost. These discussions resulted in a considerable increase of the family contribution to around 75%. This was helped also by reducing the cost in materials and by replacing paid labour by an increase in family labour for the construction of the pit and the sloping floor. Through other funding, CEOSS is now continuing to assist other families (also in other

communities) with the stable improvement. At the same time, experiments are continuing to improve a number of details in stable management.

Marketing of excess organic fertilisers

The poorer families, who could not benefit from the stable innovation, having no or very few animals and almost no land, opted for the second innovation: a compost barrel as described above. As they had little use themselves for the composted material, they sought ways to make an income out of it. Although many ideas were proposed by the now much more dynamic women's groups, it appeared difficult to find an outlet for this compost. Until now, this problem has not yet found a promising solution.

Applying the PTD process or replicating a successful innovation?

Especially with the successful stable improvement, CEOSS was confronted with a classical problem in PTD extension: Should efforts be made especially to replicate a successful innovation at a much larger scale, or should emphasis be given to the participatory learning and empowerment process itself, irrespective of the material outcomes? CEOSS staff became convinced about the importance of the second issue and senior staff insisted that priority should be given to the process rather than to the specific tangible results. This is indeed important. Most probably in this case, both pathways are valuable. There seems to be little sense in letting other families re-invent the wheel. Next to replicating this innovation in a separate programme at a much wider scale, the PTD learning process could be initiated (and continued!) in rural households, tackling other problems. In the experimental work on farmers' fields, this problem seems less acute. Here, the innovation process is much slower and extended over several seasons while, at the same time, farmers will start exploring themselves to solve new problems.

How to document lessons learned in the PTD process?

CEOSS staff was very keen on how to make sure that results of this pilot project could be shared with other people inside and outside CEOSS. There is not yet much experience with documenting (not only evaluating) what happens in a project. ETC was asked to give particular attention to this issue and a non-planned third training workshop was therefore organised. Good use was made of training material prepared by the International Institute for Rural Reconstruction (IIRR) on Participatory Systematisation and Documentation. At the same time, initiatives were taken to write an article in the *ILEIA Newsletter* and to make slides illustrating the processes and results of the pilot project. The procedures in the farmers' experimental design workshop were elaborated in a training module, which was published in the *PTD Circular*. Still much more could be done to record, document, exchange and share information with others in- and outside CEOSS, and to contribute to further advocacy for more participatory and ecologically-oriented development programmes, at least in Egypt.

6. Impact of the training workshops and challenges ahead

Scaling-up at the local level

In the meantime and after the end of the funded project (July 1998), the PTD process took its own momentum and, by the end of 2000, the number of experimenting groups in the two towns increased to 21 farmers' groups and 38 women's groups.

Farmer research and extension capacities

Very quickly, after the first design workshops, the 30 farmers working together in the three farmers' experimenting groups acquired a taste for more systematic experimentation with different crop practices and claim that they will continue this, with or without support from CEOSS. Other farmers showed their interest to join the experimenting groups or started experimenting by themselves. First results of the fertiliser experiments are encouraging, indicating that it would be possible to maintain yields and reduce costs through decreased applications of chemical fertilisers. In the first experiments, chemicals were partly replaced by organic and/or biofertilisers. The farmers also started new experiments to improve composting practices and to tackle pesticides problems. CEOSS staff was also quick to pick up the process of experimental design workshops and giving further guidance to the farmers' groups. The ETC facilitator had no further involvement in these activities, apart from guidance of CEOSS staff through the two above-mentioned follow-up training workshops. Efforts should still be stepped up to improve farmers' experiments and to increase the sharing of results within the farmers' experimenting groups and in the village community at large. The further strengthening and multiplying of farmers' experimenting groups beyond the two pilot towns could be a next step in the PTD process towards farmer-to-farmer extension.

High gender impact

The impact of the pilot project at the household level is even greater. When making decisions on the solutions to be tried out, CEOSS agreed to contribute about 75% of the cost involved. Within two years, the CEOSS contribution was reduced to less than 25%, which indicates the importance given by families to these innovations. The 60 women initially participating in the six groups has rapidly increased to about 100 in 1998, while more than 50 other women then asked if they could also try out this innovation. At the end of 2000, 38 groups with a total of more than 650 women undertook this kind of innovation. The PTD process has considerably strengthened their position in the community; their groups received important recognition in their communities as focal points for other development activities. Many women developed skills in public dialogue, analysis and problem solving, while a number of women have developed leadership and management skills. The PRA and PTD methodologies fit very well into CEOSS' general development approach and it was easy for CEOSS field staff to continue activities and to support the women's groups. The first encouraging achievements of this pilot project invites further action to capitalise on this participatory process, especially with women, in order to improve their household living conditions. An important issue still is how to maintain the momentum with these women's groups and to strengthen them so that they can organise other development activities that interest them, e.g. by consolidating them in functional socio-economic development groups. Another step could be taken in finding ways to market the organic fertilisers produced in the homes, especially in those families, which have no cattle to produce manure and no fields to use these fertilisers.

Impact at the community level

At the community level, a system was developed to transform household and animal waste into organic fertilisers, making houses and streets cleaner, while raising awareness of the negative effects of garbage and animal waste on environmental pollution of land, water canals and the river.

Box 3: Key factors for success

- A participatory process from problem identification to an open-ended project approach
- Farmers and women eager to improve their situation
- Gender sensitivity and differentiation
- The PTD process: people really feeling that outsiders are listening to them and taking their concerns seriously; handing them the “decision-making stick”; recognising their ownership of innovations and experiments etc
- Practical procedures for farmers’/women’s experimental design workshops
- Extensive use of PRA tools, including the drawing of resource flows
- Participatory development of a major innovation in the household system
- An innovation with multiple positive effects (cleaner houses, time savings for both women and men, improved health and fertilisers)
- The open learning attitude of CEOSS development staff
- A process embedded in an organisation with long experience in community development and highly trusted by rural communities (in spite of a social and religious context full of potential tensions).

Institutional impact within CEOSS

Within CEOSS, the pilot project has received much attention, both among field level and supervisory staff and from CEOSS management. Within half a year, 25% of CEOSS Development Sector Staff (around 80 men and women) have been exposed to the training sessions on PRA, PTD and LEISA. CEOSS management in Cairo is very supportive to further developing these new approaches and incorporating and adapting them to CEOSS’ overall development philosophy. It is important to mention that, although the PTD approach provides new insights and instruments, they find a solid basis in CEOSS’ existing experiences and participatory approaches when dealing with their target communities. Other staff members are increasingly interested, while the approaches used in the pilot project are clearly internalised by the already trained staff. This became clear when presentation of the pilot project was prepared for the yearly evaluation meeting of CEOSS Development Sector Staff in September 1997, which took place just after the second training workshop. Instead of merely presenting approaches and results, the staff trained in PTD prepared relevant open questions on how people in other CEOSS programmes deal with decision-making by the target groups, priority setting, problem analysis etc. Also when the participants in this training workshop were asked to prepare proposals for further action within the pilot project, their basic ideas were clear and did not need much more comment from the trainer. It became clear already then that a momentum has been created in which next steps for further institutionalisation and scaling-up of the approach may be appropriate. By the end of the pilot project, CEOSS staff members were using the basic principles of PRA and PTD within it’s the overall community development approach of the organisation. The PTD framework is not applied in a classical way which includes the main six steps, but it is adapted in other rural towns and villages as well as in other CEOS programmes such as education, nutrition and health.

Impact beyond CEOSS

The pilot project had an important impact in raising awareness that very little training and reference materials are available on participatory approaches and LEISA in the Arabic language. As a result, funding has been requested and received from the Royal Netherlands Embassy in Cairo to translate in Arabic the PTD trainer guide written by ETC staff. This important book was published in November 2000 by CEOSS in Cairo.

In 1999 CEOSS prepared a proposal to scale up PRA and PTD approaches through a capacity-building programme for its own staff, as well as for staff of government extension working in the same towns as CEOSS and for the staff of local civil-society organisations (CSOs) supported by CEOSS in the Governorates of Minia and Beni Suef. The proposal gives important emphasis to training of CEOSS trainers in PTD and to increasing awareness of the necessity for this kind of approach at the policy level of the Egyptian Government through exposure and workshops. This proposal for a three-year project (with a budget of US\$ 375,000/yr) was finally submitted in early 2001 through ICCO to the EU. It foresees an increase to about ten participating communities (with 10,000 to 30,000 people each) to be supported by CEOSS, out of a total of 50 communities in the two Governorates. Apart from that, since November 2000, CEOSS has been implementing a capacity-building programme for 100 CSOs in different fields. This capacity building will also deal with participatory approaches such as PRA and PTD, working with the target groups of these CSOs. The programme is funded through the Swiss-Egyptian Development Fund. In the meantime, CEOSS staff members trained in PTD have been participating in PTD training of government agricultural extension staff, e.g. in the Fayoum Horticultural Development Project funded by Dutch aid (DGIS).

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VI. THE CENTRO IDEAS-ETC PROJECT BY HENK DE ZEEUW

1. How it started

This project originated as a follow up to a study of the strategies applied by NGO's in the Andes region to promote Sustainable Agriculture, that was implemented in 1994 by ETC on behalf of ICCO (a Dutch NGO - funding agency). One of the findings of that study was that although these NGO's normally talk a lot about people's participation, their practices at field level in many cases are not that participatory, especially not when it comes to technology development. Many NGO's have adopted in the early nineties a strong ecological orientation and tended to push their "alternative" technologies to farmers in a conventional "transfer of technologies" approach, although the rhetoric's were quite different. Their ideological drive led to a strong emphasis on "convincing" farmers to adopt the ecological technologies without a critical assessment of the technical, socio-economic and ecological relevance and applicability of the technologies proposed by the NGO.

Against this background, a project was initiated to introduce the PTD-approach among ICCO's partner organisations in the Andes region. The programme was prepared and co-ordinated by Centro Ideas, with technical support from ETC. In the project participated 8 NGO's from Peru and 8 from Bolivia during 2 years. In January 2000 a follow up project started to operate.

The initial project objectives were:

- a. To adapt the PTD-methodology for use by NGO's and the local conditions in the Andes
- b. To strengthen the capacity of the local NGO's to implement participatory approaches to the development and diffusion of agricultural technologies

2. The training approach and process Followed

The training approach

The training approach applied can be characterised as follows:

- Incremental; step wise
- Participatory and interactive
- Hands on; Experience based; Action learning
- Close monitoring and systematisation of field experiences
- Those who are trained are closely involved in improvement and local adaptation of what is trained: the PTD-methodology
- Institutional learning
- Networking; gradual scaling up

The description of the training process that follows will clarify the above in more detail.

The training process

A. Training of the core team

A core team of 3 (half time) persons (project co-ordinator, trainer/ country-co-ordinator Bolivia, trainer / country-co-ordinator Peru). Regular assistance was given by a gender specialist.

The three staff members were prepared for their tasks in the following ways:

* Participation in a regional training workshop in Ecuador organised by CIAT on farmers participation in agricultural research ("CIAL"-approach)

* An internal training cum project preparation workshop guided by the ETC advisor. During this workshop basic concepts of the PTD approach were discussed, the PTD-process was reviewed and the various PTD methods were discussed. Differences and similarities between ETC's approach (as described by Laurens van Veldhuizen, Ann Waters-Bayer and Henk de Zeeuw, 1997) and other participatory approaches (like the CIAL approach applied by CIAT; the Farmer to Farmer approach; the Farmer Field schools approach a/o) were analysed.

In the same workshop we discussed the best approach to follow in the training of staff of the participating NGO's, steps to follow, instruments and materials to be used, etcetera. This initial training would be reinforced during the following two years through discussions, team meetings, feedback on performance during training sessions by the ETC advisor or mutually, review of literature, among others.

B. Preparing the grounds

After having prepared themselves the trainer/coordinators visited all project partners to implement the following activities:

- Meeting with the direction of the NGO in order to give follow up to earlier communications (by telephone and e-mail) and discuss the aims of the project, main concepts, the training approach and process to be followed, and the consequences for the institution of its participation in the project in terms of: i. staff time, ii. required linkages with local farmer organisations as well as regional universities and research centres, iii. their own financial contributions to the project (the project paid for the training activities/materials; the costs of PTD activities with the farmers and part of the staff time had to be financed by the NGO) and iii. the commitment to integrate PTD in the institutional approach and projects if the experiments would be successful and to guarantee continuity of the PTD processes at local level.
- Meeting with the staff selected for participation in the PTD training, to explain / discuss the character of the project and training, time requirements of the project and the preparatory activities to be implemented by them before the first Trainer of Trainers workshop. The preparatory activities included amongst others: a. reading some basic documents on PTD, b. preparing a short presentation on main farmers problems in their working area and the ways they are assisting the farmers to solve these problems
- Review of the training and extension methodologies in use by the NGO in its projects and staff training

A meeting of the directors of the participating NGO's in each country was held at the beginning of the second and third year, with the same range of topics as described above.

C. First Training of Trainers Workshop

For the first Training of Trainers workshop were invited:

- the NGO staff that would be responsible for the training of farmers in PTD and guidance of the design, implementation and evaluation of the experiment and related monitoring and reporting
- thesis students selected to take part in the PTD process at local level, with special tasks in: i. Documentation of the PTD process and monitoring of the experiments and ii. Implementation of complementary investigations

- University staff interested in providing technical backstopping to the participatory experimentation and the involved students. In later training of trainer's workshops only NGO staff and students were invited.

The three members of the core-team and the ETC advisor acted as moderators/trainers, working in teams of two co-trainers in each session. The experiences were discussed during meetings in the evening when also the programme of the next day was discussed and adapted if needed. In each session active participation of the participants and drawing on their own experiences was practised continuously, initiated by or intertwined with mini lectures and concluded by an integrative summary of main learning points by moderator or trainer.

The first ToT workshop included:

- Introduction to the backgrounds, rational and main characteristics of PTD and comparison of PTD with conventional and participatory formal on- and off-station research as well as conventional and participatory extension approaches; Review of main concepts of the PTD-approach.
- Participants presented and discussed their own experiences with (more or less participatory) methods of technology development and diffusion; Comparison of the approach followed by their NGO and the PTD approach.
- Discussion on the role of the NGO's and technicians in the PTD process; identification of required skills and attitudes for PTD facilitators.
- Review of the various activities and dynamics of the whole PTD-process
- Detailed analysis of the activities and instruments of the first steps in the process: review of secondary data, first contacts and entrance in the community, participatory diagnosis of community resources and farming systems, identification and prioritisation of main issues for experimentation (key problem or potential), additional analysis of nature and causes of main problems identified.
- Strengthening of basic skills (horizontal communication, listening, asking questions, observation, systematic field notes, etc.)
- Participants prepared and implemented (in sub groups) a field exercise in a community attended by one of the participating NGO's with the first steps in the PTD process (see above);
- Participants planned and prepared the implementation of the same activities in their own working area

D. First Fieldwork period (participatory diagnosis)

- The first ToT was followed by a period of fieldwork (some 8 weeks) in their own working area. During this period, the participants initiated the PTD process in one community including the following activities: first contacts with the community to discuss objectives and agree on dates and agenda, participatory diagnosis of community resources and farming systems, participatory identification and prioritisation of main issues for experimentation (key problem or potential), additional analysis of nature and causes of main problems identified. Whenever possible the university staff was involved in this process.

E. Second Training of Trainers workshop

The second ToT workshop included the following activities:

- Review of the experiences gained during implementation of the first steps of the PTD process; Participatory analysis of problems encountered and identification of ways to prevent these problems or deal with them effectively. If required, additional training and information was supplied by the moderators/trainers.
- Detailed analysis of the activities and instruments of the following steps in the PTD process: search for and evaluation of solutions, participatory design and planning of the experiments, preparation of monitoring of the experiments.

- Participants applied these activities with groups of farmers in the community that was visited during the first workshop. Review of experiences.
- Participants planned and prepared the implementation of the same activities in their own working area.

F. Second Fieldwork period (search for solutions; design and planning of the experiments)

During the second period of fieldwork (some 8 weeks) the participants guided the participating farmers to search for solutions, select "things to try", and design and plan the experiments. Where possible the university staff was involved in this process.

A field report had to be prepared on the process up to now and the resulting plan for the farmer experimentation.

G. Third Training of Trainers workshop

During this third ToT workshop we developed the following activities:

- Review of the experiences gained during implementation of the first steps of the PTD process and problems encountered were discussed. Additional information and training were supplied, if required.
- Each of the participants presented the draft design of the experiment they planned with the farmers: rational, objective, participants, experimental variables and treatment levels, layout and statistical design, organisation and management of the experiment, criteria for the monitoring and methods of registration and monitoring); The discussions resulted in suggestions for improvement of the individual experiments as well as identification of flaws in the diagnosis and design process and identification of ways to improve .
- Detailed discussion of the activities and instruments of the next steps in the PTD-process: implementation and monitoring of the experiments, evaluation of results, sharing/diffusion of the results, planning of the next cycle of experimentation
- Participants planned and prepared the implementation of the same activities in their own working area.

H. Third Fieldwork period (implementation and evaluation of the experiments; planning of next cycle)

During this period (six months) the experiments were implemented and evaluated.

During the implementation period all NGO's were visited at least once by one of the co-ordinators. Both farmers and the NGO (thesis student) maintained certain records. Photo and video registration of the PTD process and the experiments was encouraged.

A second field report on the process and results of the experiments had to be prepared.

I. Evaluation-cum Planning workshop

- During this workshop each NGO presented the experiences gained during the implementation of the experiments and their results.
- On the basis of the two field reports that had been forwarded by the participants to the co-ordinators, the latter prepared a synthesis of the main experiences and some recommendations for improvement, which were discussed in the workshop leading to amendments in the methodology to be applied in the second year.
- Finally we discussed in more detail questions that have to do with the diffusion of results and the institutionalisation of the PTD process at local and regional levels.

J. Revision of the draft PTD manual for technicians; design of farmer's brochures

The feedback received through the workshops and field reports were used to further develop the draft PTD-manual. The experiments implemented during the first year were used to illustrate both good and bad examples for the second year training cycle with a

second batch of staff of the NGO's participating in the first year as well as additional NGO's.

During the field work periods the trainer/coordinators visited the participants and the farmer experimenting groups once or twice to give technical and moral support and to help overcome problems encountered.

3. Impacts of the training

The chosen training approach turned out to be very effective:

- None of the NGO staff or students dropped out. Involved students got so enthusiastic that they formed an association of PTD-practitioners.
- Most of the farmer experiments were concluded successfully.
- Most of the farmer experimenter groups continued to function in the second year (even in cases where the NGO did not give direct assistance in the second year) and in various cases the experiments were replicated by non-group members. Group members often implement additional experiments on the same topic next to the experiment designed in the group in collaboration with the NGO.
- Most of the NGO's incorporated PTD in their working methodology.
- Other NGO's requested to be trained in the methodology. Also international organisations and projects incorporated the PTD-methodology and requested training of their staff.
- Most of the university staff got motivated by their involvement in the process and started organising meetings with other university staff on this subject and/or undertook efforts to get the subject included in the curriculum and/or tried to change the formal criteria for evaluating thesis (which now are biased strongly to conventional station type of research).
- The training materials (farmers booklets, manual for technicians) that were developed in the course of the project have been received positively and are in great demand.
- Book/guideline on PTD: Spanish version of the book *Developing Technology with Farmers* (Laurens van Veldhuizen, Ann Waters-Bayer and Henk de Zeeuw, 1997)

4. Lessons learned

- a. The continuous combination of conceptual and operational aspects (techniques, formats, skills, instruments, timing, logistical planning) of the PTD-process is of crucial importance. People trained in concepts without the operational aspects become ideologists with no practical impact. People with all the instruments and skills but lacking conceptual clarity, become undirected activists. These trainees know now, what they want to do, why and how.
- b. It takes time before technicians learn their new role. Initially some may continue their conventional style: more prescribing/lecturing than facilitating/listening/questioning. Some have strong fears to loose the respect of farmers and colleagues if they would change their style and role. Others switch completely to the other extreme and become purely facilitators of the process leaving aside completely their own technical inputs even when very much required. After a while most find a new balance and self-confidence.
Therefor, attempts to train staff in one major training event in PTD will probably not effective. It is only over time and after various moments of practice and reflection that the new balance is found and new concepts and practices get integrated in the existing set of attitudes, knowledge and skills.

- c. The intermittence of training and field operation proved to be very successful since it puts the trainees from the beginning in an operational role and the sharing of the practical experiences gained by the participants form an essential input in the training, as well as an important feedback to the trainers and important source for improvement of the training materials.
- d. The initial and yearly meetings with the directors proved to be of vital importance for the enhancement of “ownership” of the project among the participating organisations and their commitment to the project. This in turn greatly enhanced the integration of PTD in the programmes and budgets of the NGO's and their involvement in up-scaling and dissemination of the PTD approach. It also creates better conditions for the work of the staff involved in the PTD experiments: time and budget for the experiments are included in the NGO's work plans and budgets, means of transport are made available in time, co-ordinators ask for the results of the PTD trainings and field work, etcetera. Training courses lacking this institutional awareness and support will be much less effective. Staff will be discouraged to practice what they have learned and normal routine will prevent them from doing their PTD work.
- e. The involvement of students and university staff at moments complicated things (some students put their thesis interest before the farmers interest; some university staff do imprint their conventional research methods upon the design for the farmer experiments etcetera). But on the other hand this provided an important mechanism to initiate processes of reflection and change in the universities and in the formation of new generations of technicians. It also added more consistency to the documentation and monitoring of the experiences.
- f. During the training process we have to give more attention from the beginning to the issues of the selection of farmer experimenters (identification of local innovators and their ways to experiment, participation of women, preventing that the interests of families with more status and economic power dominate the PTD process, etcetera).
- g. Another topic requiring more attention in the training is the issue of the process towards consolidation of farmer experimenter groups and development of adequate relations between experimenter groups and the community as well as with other support organisations (other than the NGO that helped them to get started).
- h. Although few experiments resulted in failures, some of the experiments did not focus on issues that are central for the development of sustainable and productive local farming systems. Farming systems analysis is something that is rarely taught in most Universities in the Andes and one may understand the techniques to do a participatory diagnosis with farmers but still miss to detect the critical factors. In other cases the experimental design is deficient (e.g. insufficient analysis of the available alternative solutions, the application of irrelevant treatment levels, no true repetitions of the experiment, etcetera).
- i. Time needed to attend to farmer experimenter groups during their first and second year tends to be higher than NGO's normally tend to give to small groups (due to a structural lack of funds, difficult access of the communities and/or lack of means of transport, lack of motivation of field staf). Cash needed to finance farmer experiments (once staff and transport is covered) in most cases is minimal (the majority of the experiments took less than US \$ 25 per group of 6 or more experimenting farmers).

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VII. REFLECTION ON THE FOUR CASES

From these descriptions of the PTD training and coaching in the ISWC, PMHE, CEOSS and Centro IDEAS projects, similarities and differences in terms of training principles, methods and impacts can be seen.

In all four projects, the knowledge of farmers is recognised and respected. Farmers are given the principal roles and are supported to become self-reliant. The focal point of the four projects is capacity building (at local level with farm families and at institutional level) focusing on developing relevant skills and bringing about attitudinal and behavioural changes among different categories of trainees.

The four projects contribute to the training in many forms: through sponsoring trainees, making logistical arrangements, collaborating with institutions, providing training support in the form of trainers for core team (and trainers of trainers), co-trainers in subsequent training sessions, field facilitators and backstoppers. PRA and PTD are the common basic subject matters of the training.

The four projects also have in common the principle of experiential learning, with focused learning sessions interspersed with fieldwork.

Common impacts are as follows:

- Enhanced national training capacities;
- Improvement in the farmers' capacities to innovate and experiment;
- Enhanced farmers' self-confidence and self-help as a result of the PTD process;
- Promotion of regular interaction between stakeholders in agricultural research and development;
- Bringing the researchers/university staff more fully into the picture, to complete the Farmer-Extension-Researcher triangle and to strengthen the processes of innovation, validation and joint experimentation;
- Reversal of the one-way linear movement of information Researcher-Extension-Farmer.

Other common qualitative impacts include: transformation in the attitudes of field workers, officers and researchers; replacement of paternalism by partnership; farmers no longer being considered as recipients of development benefits, but rather as active partner in the development process.

However, there are some differences between these projects in applying the above-mentioned training principles and methods, and these are related to the context.

In the case of PMHE, the main constraints to development were: the exclusion of farmers on account of the blueprint approach of the Mahaweli Authority; the loss of self-confidence and self-reliance of farmers, who depended on the MASL; the lack of appropriate agricultural experience among farmers to maintain productivity; and the poor social cohesion and weak organisational capacity, which adversely affected the local-level farmers' groups. This context explains why, on top of the above-mentioned common subject matters (PRA and PTD), PMHE put emphasis on Farm Planning, Community Mobilisation and Organisational Development.

In the cases of ISWC, CEOSS and Centro IDEAS, the main constraints to development were: the exclusion of farmers from research planning and implementation on account of the prevailing top-down/transfer of technologies approach in research and extension; the lack of consideration of farmers' first priorities, knowledge, skills and innovations; the need for changing the attitudes of such actors as researchers and extensionists; and the

need to introduce the concepts and principles of participatory research and extension to these actors. These constraints were dealt with through PRA/PTD training, with an emphasis on farmers' innovations, in the case of ISWC and Centro IDEAS, and on PRA/PTD/Objective-Oriented Project Planning, in the case of CEOSS.

The training and support of different categories of government staff and geographical spread of the activities is wider in the case of PMHE than in Centro IDEAS, ISWC and CEOSS. Unit-level trainees (Field Assistants and Unit Managers), Block-level trainees (Agricultural Officers, Community Development Officers, Institutional Development Officers), Block Managers and Human Resource Development Officers were included. This has created more efficiency in the PTD process and more opportunities for the institutionalisation of the PTD approach.

In the ISWC, Centro IDEAS and CEOSS programmes, the materials developed before and during the PTD workshops were used to further develop guidelines for staff training. However, in the case of PMHE and Centro IDEAS trainings, curricula and training materials (farmer booklets, manuals for technicians) were developed more systematically.

The PMHE and Centro IDEAS methodologies clearly highlight the necessity to organise initial and yearly meetings and exposure (institutional awareness) with the directors/superiors for the enhancement of 'owner ship' of the PTD project/approach among the participating organisations and their commitment to the PTD process. This gives many advantages like:

- Enhancement of the integration of PTD in the programmes and budgets of the NGO's and their involvement in up-scaling and disseminating of the PTD approach;
- Creation of better conditions for the work of the staff involved in the PTD experiments. That is time, budget, means of transport, monitoring, documentation, etc.

The ISWC and Centro IDEAS methodologies show that the involvement of students (for their thesis) and university staff in the PTD process provides an important mechanism to initiate change in the curricula of the education institutions and hence the formation of new generation of agricultural agents.

The four programmes are not comparable with respect to duration and scope. ISWC-II has lasted five years and operates in seven countries. (The first phase operated, in part, in other countries, was restricted to documenting indigenous SWC practices and did not address farmer innovation and PTD.) The PTD training and coaching project for CEOSS lasted two years in one country and has now been taken over as part of the CEOSS activities. Centro IDEAS concerned Peru and Bolivia during two years. PMHE concerned only one country and operated for nine years. This longer period in the case of PMHE could explain some of the outstanding activities accomplished there, such as:

- Post-training assessment, which looked into the effectiveness of training in participatory extension methods/tools on the working styles of Field Extension Officers;
- Development of training curricula and manuals;
- Training and support to Block Managers.

It indeed appears to be necessary to plan for a longer period of training and coaching support if PTD is to be firmly integrated into existing institutions of agricultural research, extension and education.

The PMHE training methodology highlights also the necessity to organise a more formal post-training evaluation. This issue is still a big challenge for the ISWC, Centro IDEAS and CEOSS programmes.

VIII. NEXT CHALLENGE

The experiences discussed during the seminar showed that different stakeholders were involved in PTD training. That is:

- Trainers and co-trainers;
- Field extension workers/officers;
- Superior officers;
- Farmers, etc.

There is a need to appreciate the effectiveness of the PTD training within field extension workers/officers, superior officers and farmers.

The objectives of the post-training evaluation could be:

For field extension workers/officers

- To determine the current knowledge and skills levels (awareness, understanding, adaptation or modification) regarding the PTD process and tools/methods;
- To identify their attitudes towards the training programmes and significance and use of the PTD approach and tools/methods;
- To assess the extent to which they have incorporated the PTD approach into their day-to-day working situation;
- To identify the main factors affecting the insertion of the PTD approach in their organisation.

For senior officers

- To assess their involvement, support and continued sustenance of the PTD approach;
- To identify their perceptions about the use of the PTD approach and tools/methods by their subordinate officers.

For farmers

- To identify their perceptions about the use of the PTD approach and tools/methods;
- To assess the type of interpersonal relationships between them and field workers/officers and superior officers.

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ETC Ecoculture

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