The introduction of PM&E in the People and Resources Dynamics Project in the Hindu-Kush Himalayas

A FINAL REPORT

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Content

I - Introduction

Background

I tell you I have a headache,
so why do you insist on wanting to give me a throat medicine!

Experience has shown that development initiatives, to be sustainable, cannot be imposed from the outside, but on the contrary, must be built on the capacities, knowledge and desires of local people. Large development programs, for many years, focussed solely on elements which were thought to be necessary to modernize "backward" regions, including the development of local industries, infrastructures to access markets, and agricultural intensification through the introduction of monocrops and the application of chemical fertilizers and pesticides. These programs, if they have, in the short-term, contributed to raising local incomes, have not just had positive impacts. They have also contributed to increased inequalities; losses in biodiversity; to decreasing soil fertility; creating soil instabilities, eventually causing erosion and other natural disasters; to soil, air and water pollution; and have imposed changes on farming systems, which in many places, have led to the loss of precious local technical knowledge and to the reduction of farmers' confidence. In the long-term, these will have serious impacts on local people's livelihoods. This is not even mentioning the high social costs of structural adjustment programs, from which many countries are now trying to recover.

Today, it is thus recognized that development initiatives, to be sustainable, must consider social and environmental issues at the same level as economic ones, and for this purpose, the participation of local people has become a central aspect of development projects. This move from top-down to bottom-up approaches first took place at the micro-level, where, since the mid-80s, NGOs have been experimenting with and elaborating various methodologies and tools for facilitating local people's participation. However, throughout the 1990s, these relatively marginal NGO-centered experiences have moved very quickly to mainstream development policy and practice. Participation has even become the banner of such organizations as the World Bank, which has established mechanisms for monitoring its level in its various projects.

This scaling-up of participatory methods has not taken place without encountering obstacles. One of the main issues is that institutions, which have hierarchical structures and function in a top-down and inflexible manner, often prevent genuine participatory processes to take place. "Sustained participation in development demands transformations in three domains: methods and procedures; institutional cultures; and personal behavior and attitudes"[1].

Many organizations are thus undergoing institutional development to decentralize their internal decision-making, to adapt their organizational cultures, to assess their capacity building needs, and to develop more flexible management ways compatible with participatory processes. One of the many outcomes of these efforts is the spread of "participatory monitoring and evaluation" (PM&E) as a management tool, to ensure that participation takes place all throughout the project cycle instead of its too often being reduced to a blueprint exercise conducted during needs assessments.

[1] "Foreword", Robert Chambers in Who changes?, edited by James Blackburn.

What is PM&E?

A few years back, when advocating for the participation of local people in the decision-making over and implementation of activities that will have an impact on their lives, several development professionals asked "*Whose Reality Counts?* and argued the need to begin with the priorities of poor and marginalized people when planning and implementing development programmes"[2]. Recently, the argument has gone one step further to ask " 'who counts reality?' – that is whose voices and knowledge are used to define success? Who benefits and who learns from the process of evaluating and tracking change?"[3].

PM&E can be seen as a management tool, which requires the different stakeholders involved in a project or any kind of development intervention, or who can influence its outcome, to agree to closely cooperate with each other on a number of activities, for which they commonly elaborate a vision of the ideal situation and develop indicators for measuring the degree of achievement in attaining that situation.

However, more than just a management tool, "PM&E is a journey, not a destination. It is a process, not an activity"[4]. It is a "social process of bringing people together in new ways, a cultural process of coming to understand different views, and a political process of sharing decision"[5]. As such, it can be used to empower and build the capacities of local people, and motivate them to engage in a self-development path.

Monitoring usually involves the regular assessment of activities to check if they are being implemented as planned and if not, to allow direct and immediate actions to be taken. It also involves the regular collection of relevant data to track change and eventually learn from the process. Evaluation is more of a periodic examination, which involves judging the degree of success of the different activities on the one hand and of the whole project on the other hand.

Conventionally, monitoring and evaluation was carried out by outside experts using pre-set indicators, mostly relevant to donor organizations. PM&E emerged as a recognition of the limitations of this approach, and to ensure that rather than being taken away by outsiders, the results of monitoring and evaluation are used locally for redirecting efforts and re-planning activities as appropriate.

In general, PM&E includes the following steps:
- identifying who should and wants to be involved;
- clarifying participants' expectations of the process and in what way each person or group wants to contribute;
- defining the priorities for monitoring and evaluation;

[2] "Preface", Learning from change – Issues and experiences in participatory monitoring and evaluation, edited by Marisol Estrella
[3] same
[4] "Participatory Monitoring and Evaluation – Tracking change together", Irene Guijt, Mae Arevalo and Kiko Saladores, in PLA Notes 31, February 1998, p.36
[5] same p.33.

- identifying indicators that will provide the information needed;
- agreeing on the methods, responsibilities and timing of information collection;
- collecting the information;
- analyzing the information;
- agreeing on how the findings are to be used and by whom;
- clarifying if the PM&E process needs to be sustained and if so, how[6].

The aim of this paper is to present and share the experience of the Department of Ethnobotany, Kunming Institute of Botany, in introducing PM&E into one of its projects. It will first present the context of how participatory methods were introduced to various government and non-governmental organizations in Yunnan Province. In particular, it will discuss how these were integrated into the work of the Department of Ethnobotany and eventually complemented by PM&E. The later will then be discussed in more details, with examples from its implementation in the People and Resources Dynamics Project in the Hindu-Kush Himalayas. Finally, the lessons learnt and next steps to be taken will be reviewed.

II – The context in Yunnan

The introduction of participatory methods

Prior to 1990, efforts made to alleviate poverty and develop rural areas only took the form of researches and studies done with a policy orientation. In other words, activities were characterised by researchers searching for information from the bottom – though most of the time, they were only getting data from lower levels of governments, while rarely undertaking direct surveys with people – to transmit it, accompanied with comments and suggestions, to the top, where policies and decisions would be taken, though not necessarily accordingly. Several factors in the late 1980s, early 1990s contributed to the questioning of this status quo, the introduction of new approaches, and the establishment of new institutes or organisations emphasising the need to aim at a 'sustainable development', in its turn highlighting the importance of involving people and communities in the development process.

First, the reform process, which started in the late 1970s, has led to a change in the nature of poverty, leaving the government in a delicate position, having both to adapt to institutional changes at the top while undertaking its own, and adapt to rising demands from the bottom, and this, without necessarily anyone knowing where, or to what, the whole process would lead to. On the other hand, faced with a new autonomy, the Yunnan Provincial Government can now take its own decisions, elaborate its own programmes, and go its own way. It has thus decided to open quickly and wide to the rest of the world, and welcomes all initiatives aimed at the economic and social development of the province.

[6] "PME, Learning from change, in *IDS Policy Briefing*

Due to its situation as one of the poorest region in China, but also to the particularly opened attitude of government officials towards innovative approaches, even non-governmental, and to new sources of funding, Yunnan has raised the attention of international organisations and NGOs. Three events, in particular, have set the wheel going: the establishment of Care International in the late 1980s, which gave an example of an alternative, non-governmental way to address the issue of poverty; the Yunnan Upland Management Project, initiated in 1990 with the funding and support of the Ford Foundation and of Winrock International, with the goal of achieving a sustainable development for the Yunnan Upland Regions; and a PRA (participatory rural appraisal) training workshop given by Robert Chambers in 1993, after which a number of practitioners and researchers decided to establish the Yunnan PRA Network, based at the Rural Development Research Centre, to search for ways of applying these methods in the Chinese context.

The Yunnan Upland Management Project[7]

In 1987, the Yunnan Provincial Poverty Alleviation Office (YPAO) asked the Yunnan Academy of Social Sciences (YASS) to conduct a study on "Strategy for Poverty Alleviation and Economic development of 41 Poor Counties in Yunnan", to develop solutions and guidelines for future poverty alleviation work. Around that time, representatives of the Ford Foundation China and Winrock International Asian Regional Office conducted a study tour in Yunnan. Two major causes of poverty identified by the earlier study were the lack of information and the lack of qualified staff, owing to the remoteness of Yunnan. Following discussions with the Head of the YPAO and the Director of the Institute of Rural Economy (YASS), the Ford Foundation and Winrock International agreed to cooperate with the Yunnan government on the Yunnan Upland Management Demonstration Project.

This project identified four counties, each representing a poverty classification type. In each of these counties, one village was selected as a project demonstration site, designed and technically assisted by the project participants, including researchers and teachers from both the natural and social sciences, as well as government officials, from 13 organisations altogether. This group of people got the opportunity to spend long periods of time working at the grassroots, which made them realise the importance of farmers' participation in decision-making.

At the same time, from 1991 to 1994, 30 individuals from the different participating units were sent to selected universities in Thailand and the Philippines for training in environmental sciences, natural resources management, social forestry, agricultural systems, social and development studies, and other related areas. In 1995, 13 more individuals were sent and since then, Winrock International has kept selecting new participants each year. Other training in Kunming included English, RRA, PRA,

[7] « Final Report on the Participant's Assessment of the Yunnan Upland Management (YUM) Training Programme », Assessment Working Group, Winrock International, Asian Regional Office, October 1, 1998.

interviewing skills, monitoring and evaluation skills, etc., which were then applied to the demonstration sites.

This training program has created a group of high quality trainers, and many trainees, after returning, have established their own NGOs or participated in the introduction of international projects in Yunnan Province by providing feasibility reports and consultancy services.

The Yunnan PRA Network[8]

In 1993, the Yunnan Institute of Geography invited Robert Chambers to provide a training in PRA. The Yunnan PRA Network was then established in 1994 (mainly funded by the Ford Foundation, with a small initial grant from IDS) and since then, most applications and promotions of participatory approaches in Yunnan have had some relation with the members of that network, either through their own research and action projects, participation in government projects or through consultancy services provided to international agencies.

The network has provided many training to its fifty-two members, as well as opportunities to practice their new skills through the allocation of small grants. Most of them see the network as a forum of people with a common interest and value its relaxed atmosphere of exchange and the stimulation of its interdisciplinary sharing.

After a few years of learning by doing and sharing, most of the network members praise the benefits of participatory methods and have tried to adopt them in their daily work. They believe that equal cooperation, mutual understanding and mutual trust should become important components of any development initiative, as they are necessary to build harmonious and productive working relationships between villagers and outsiders. In particular, project staff and local officials, through experimenting with participatory methods, have changed their attitude towards farmers and realized the capabilities of the latter. On the other hand, villagers have gained confidence and awareness of their role in self-development, which has, in turn, raised their interest and enthusiasm, and released their energies. This has often been accompanied by a change of roles. Farmers now take on more responsibilities as they actively participate in the decision-making process regarding projects that will affect their lives. On the other hand, government agencies can focus more on providing services and training, ensuring organizational structures, assisting farmers and providing information. In research projects, respect and transparent working procedures have also significantly contributed to improving the generation and sharing of information.

Several issues have particularly been stressed over time by members of the PRA network and thoroughly discussed during meetings: they include the importance of institutional structures and supporting project management mechanisms that enable and support

[8] "What can participation really do? Summary Report on Findings of Project-Based Reflections on PRA in SW China", Andy Wilkes. Also, "Searching for Participatory Approaches: Findings of the Yunnan PRA Network", Lu Xing.

participation. Many experiments have been carried out to innovate in that direction, as "the establishment of community organizational institutions and structures are an important basis of sustainable community production, livelihoods and development management. (…) Community organizational management and coordination capacities are often ignored in the provision of external support. Thus, in some projects after the project ends, all the achievements and progress cannot be sustained"[9]. As of project management mechanisms, one project, for example, developed a monitoring system that monitored the use of participatory methods in its design process. In another case, technicians had to report to villagers and seek their approval for any changes in technical designs. There are many other experiments of this kind.

In many instances, however, the lack of such supporting mechanisms, has posed an important obstacle to the implementation of participatory methods. Many PRA practitioners in Yunnan come from research institutes, which mandate is mostly to give consulting services and training, but not to implement projects. This means that even if they use participatory tools for advising the design of projects and activities, top-down implementation and management styles prevent participation to be sustained. In many institutes, moreover, the leaders do not recognize PRA as a valid research method, not to say the promotion of participatory approaches as a valid mission. This situation poses a multiple role conflict for practitioners, whose work units relate promotion and salary bonuses to the amount of 'valid' research reports published. There is thus a real need to train project implementers and field staffs in participatory project management to reconcile participatory project tools and approaches with appropriate management structures.

Another issue is that participatory approaches require a gradual learning process on the part of villagers, local staff and government officials. This is especially true in China, where farmers are used to being told by government officials what to do, and thus need a lot of time to start trusting outsiders coming to shake that status quo. Therefore, if insufficient time and consideration is given to gradual learning, passive participation may result despite the adoption of participatory approaches. On the other hand, where gradual learning was allowed, participatory approaches proved to be better adapted to the local conditions and the routinization of the methods avoided. The costs, especially in terms of manpower, also present a significant limitation.

[9] "Xiangda Tea Plantation Project", Ms. Xue Jinling, in "What can participation really do?…".

Case study from the Department of Ethnobotany, Kunming Institute of Botany.

The Department of Ethnobotany was established in 1987 with the aim to a) promote the investigation, documentation and evaluation of indigenous knowledge systems related to useful plants and herbal medicines; b) to conserve the great wealth of biological and cultural diversity of Southwest China; and c) to promote a socially equitable and environmentally sound development in the mountainous ethnic minority areas of that region.

It is the first department of a research institute in Yunnan to have carried out fieldwork and interdisciplinary research. Participatory methods were initially introduced through projects. In particular, the first experience was made in the early 1990s during the implementation of the Rehabilitation of Degraded Lands of Mountainous Ecosystems in the Hindu-Kush Himalayas, funded by IDRC. Later, four staffs of the department attended the training facilitated by Robert Chambers in 1993 and then applied PRA to their community-based biodiversity conservation and community development projects. Participatory methods then extended to other staffs through joint fieldwork and training opportunities offered by the newly created PRA Network. Most of the department's staffs joined the Forestry Group of the latter, headed by Xu Jianchu, the executive director of the department.

Through implementing participatory methods, the task and work of the Department of Ethnobotany progressively shifted from quantitative research focussing on data collection to applied ethnobotany for community development. Eventually, the department adopted the framework of participatory technology development (PTD) to direct most of its work in the field.

PTD is a long-term interaction between outsiders and local people with the aim to generate innovations based on indigenous knowledge and cultures to develop sustainable livelihood systems. It is a process that involves and links the power and capacities of agricultural research with the interests and the knowledge of local communities. In a broader sense PTD deals with natural resources management by strengthening the local, indigenous specialists and their communities to carry out experiments to become more sustainable and self reliant with their local resources. Development practitioners recognize themselves as 'outsiders' of rural life and should therefore:

- focus on creative interactions within rural communities so that indigenous knowledge and local experiences become the driving force of development;
- be aware that one's own knowledge is the product of research centers, universities and development agencies, known as technical/scientific/modern knowledge;
- promote dialogue between the two different knowledge systems, in order to find joint solutions to rural problems taking full advantages of local resources (natural/social/cultural).

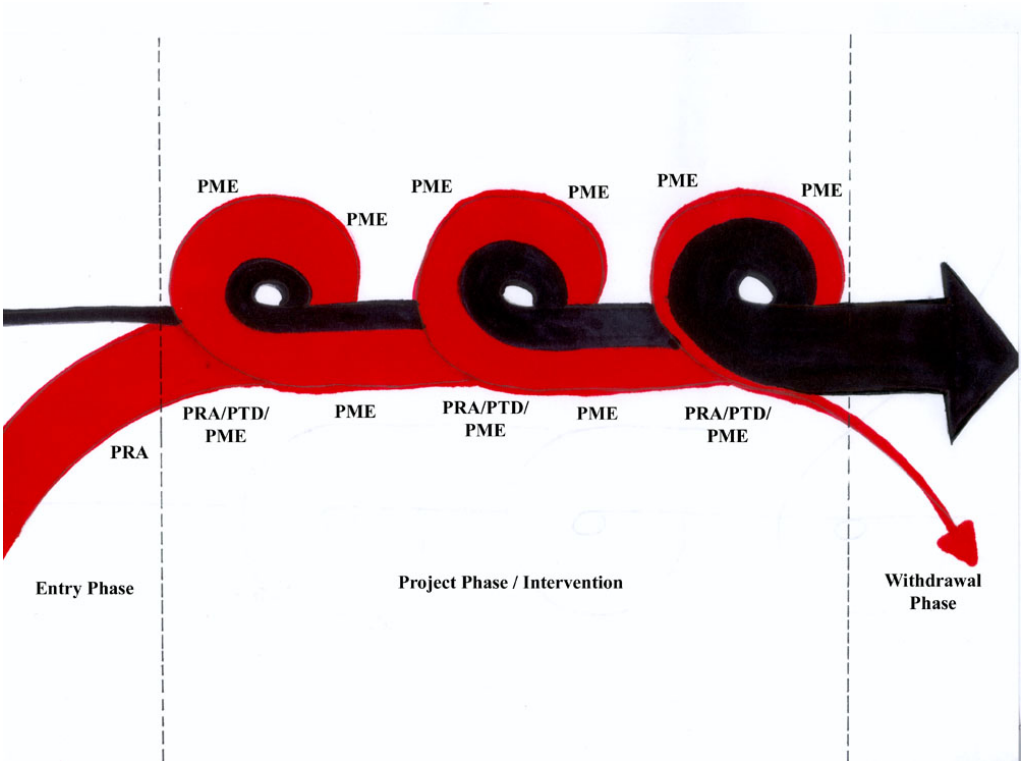
The role of outsiders thus consists in facilitating the intercultural process of learning and sharing between the technicians of development institutions and local people, as well as in facilitating the organization of a network of village specialists that will intensify the

communication on local innovations and encourage local people to continue experimenting new forms of self-sustained agriculture and resource management.

Our project cycle now includes loops of participatory project planning and project implementation, accompanied by rounds of PM&E. Throughout the whole cycle, the responsibilities of the PARDYP team should go diminishing, from an initial leading role to an accompaniment role, and to a final retreating role. Steps should be taken to give away responsibilities to local people and empower and motivate them to initiate their own activities. For this reason, the entry and withdrawal phases are extremely important.

During the entry phase, we should identify and build good relationships with our possible local partners, and make our mission and working methods clear to all the different stakeholders. Then, the goals of our project should be developed together with the local communities, who should eventually give us their agreement.

The withdrawal phase includes building the capacities of local organizations or institutions that can continue supporting the initiatives developed by local people. These are necessary for the sustainability of our intervention.



III – The process of introducing PM&E

As part of a formal research institute, though independent in many ways, the Department of Ethnobotany has also recognized the shortcomings of some aspects of its managerial structure and has thus recently taken steps to overcome these. In particular, the People and Resources Dynamics Project in the Hindu-Kush Himalayas (PARDYP) has provided an opportunity for learning and experimenting with PM&E.

The People and Resources Dynamics in the Hindu-Kush Himalayas

PARDYP is a research for development project, initiated in October 1996 with funds from the Swiss Agency for Development and Cooperation (SDC), the International Development Research Center (IDRC), and the International Center for Integrated Mountain Development (ICIMOD), with the aim to "contribute to a balanced, sustainable and equitable development of mountain communities and families in the Hindu-Kush Himalayas (HKH)". Five watersheds with different characteristics were selected, in Nepal (x2), China, India, and Pakistan, to understand some of the issues involved in resources management and degradation, and with the participation of local people, develop means of improving these.

The project has completed its Phase I at the end of 1999, the objectives of which were:

- to generate relevant and representative information about, and technologies for measuring, water balance and sediment transport related to degradation, on a watershed basis;
- to identify technologies and strategies to improve soil fertility and to control erosion and degradation processes in a farming system approach;
- to generate socioeconomic information on resource management and degradation;
- to systematically apply community-based participatory generation, testing, and evaluation of natural resources' management strategies and technology;
- to strengthen the participation of project partners;
- to make accessible to stakeholders relevant information on project outputs;
- to effectively and efficiently manage the project as a regional collaborative research and development project.

In this respect, Phase I made a start in trying to understand many of the issues involved in degradation and resource management by communities and their people, and with the help of local people began the process of introducing means of improving natural resources management. However, the emphasis during the first three years was more on the biophysical research aspects. Much technical data has been collected, but more effort is needed to move from research to development, and to turn the technical and social understanding of physical resource dynamics into appropriate natural resources management strategies that contribute to the improvement of local people's livelihoods.

The objectives of Phase II were thus formulated as follows:

- to build on and generate knowledge and facilitate the exchange and dissemination of information and skills in the middle mountains of the HKH;
- to enhance the capacities and options of families and communities, especially those that are marginalized, in the use and management of natural resources in mountain watersheds, thereby to increase household and community benefits;
- to stimulate and engage in wide ranging policy dialogues through the involvement of policy makers at local and higher levels in the research activities and in the development needs of people in the four project countries.

Part of the redirection that took place in Phase II has included the introduction of PM&E methods into the project cycle, so as to improve the management of community development activities and to ensure that the knowledge generated in the project sites directly benefits local people instead of being extracted to be used at the policy and regional level or to be turned into dormant knowledge stored in a university library. This process has been facilitated by a series of training organized by the Community Based Natural Resources Management Initiative (CBNRM) of IDRC.

Presentation of IDRC and the CBNRM

IDRC, its mandate and mission

The International Development Research Centre was created in 1970 by the Parliament of Canada to help researchers and communities in the developing world to find solutions to their social, economic, and environmental problems. IDRC connects people, institutions, and ideas to ensure that the results of the research it supports and the knowledge that research generates, are shared equitably among all its partners, North and South.

In particular, it strives to optimize the creation, adaptation, and ownership of the knowledge that the people of developing countries judge to be of the greatest relevance to their own prosperity, security and equity.

For this purpose, IDRC has in 2000 redefined its goals as:

- strengthening and helping to mobilize the indigenous research capacity of developing countries, especially directed to achieving greater social and economic equity, better management of the environment and natural resources, and more equitable access to information;
- fostering and supporting the production, dissemination, and application of research results leading to policies and technologies that enhance the lives of people in developing countries;
- exploring new opportunities and building selectively on past investments within its new program framework

The Community-Based Natural Resource Management Initiative

This program was developed for South and Southeast Asian countries with the aim to assist women and men living in ecosystems that face increasing resource exploitation to manage and use their natural resources sustainably. It hopes to generate innovations in CBNRM practices, including technologies, institutions, organizational forms and policies that contribute to improved livelihoods of the poor in fragile eco-regions in Asia.

Building the research capacities of partners in Asia is an important goal of the Program Initiative. One component of this concerns the participatory monitoring and evaluation of projects. The CBNRM initiative has thus developed a pilot training project with two of its Asian research teams, the Kunming Institute of Botany, PARDYP team, in Kunming, and the Guizhou Academy of Agricultural Sciences team, in Guiyang.

This project consists of a series of three workshops to strengthen the conceptual and methodological skills in participatory monitoring and evaluation. Based on the experiences of this pilot project, other CBNRM teams may want to repeat a similar training process.

The training process

The process includes three workshops. Workshop 1 took place in Guiyang in July 1999 and introduced the key concepts and basic questions related to PM&E. Upon completion, both teams presented concrete PM&E plans for their project field activities, which they elaborated during the workshop. Workshop 2 took place in April 2000 in Kunming. Both research teams presented how they had started implementing their PM&E plan, revised each other's activities, and got additional training. Workshop 3 took place in July 2001. In addition to the GAAS and KIB teams, a guest from the Yunnan Maternity and Child Health Center was invited. Her team had participated in a similar training process offered by CIDA (Canadian International Development Agency). The final workshop focussed on the following:

-Review of field activities by the different teams;
-Dissemination of the work done (results), and insights;
-Evaluation of the PM&E training project (approach, methodology, process);
-Planning next steps.

IV – PM&E in the field

This training process has allowed us to experiment with various monitoring and evaluation tools in the field and realize their worth and usefulness, and to initiate the elaboration of a monitoring and evaluation system that will in the future be extended to our other projects. This chapter will give a detailed account of how PM&E was progressively integrated into our project activities and project management. It will show the progress made in the last two years, while the next chapter will reflect on the lessons learnt and next steps to be taken.

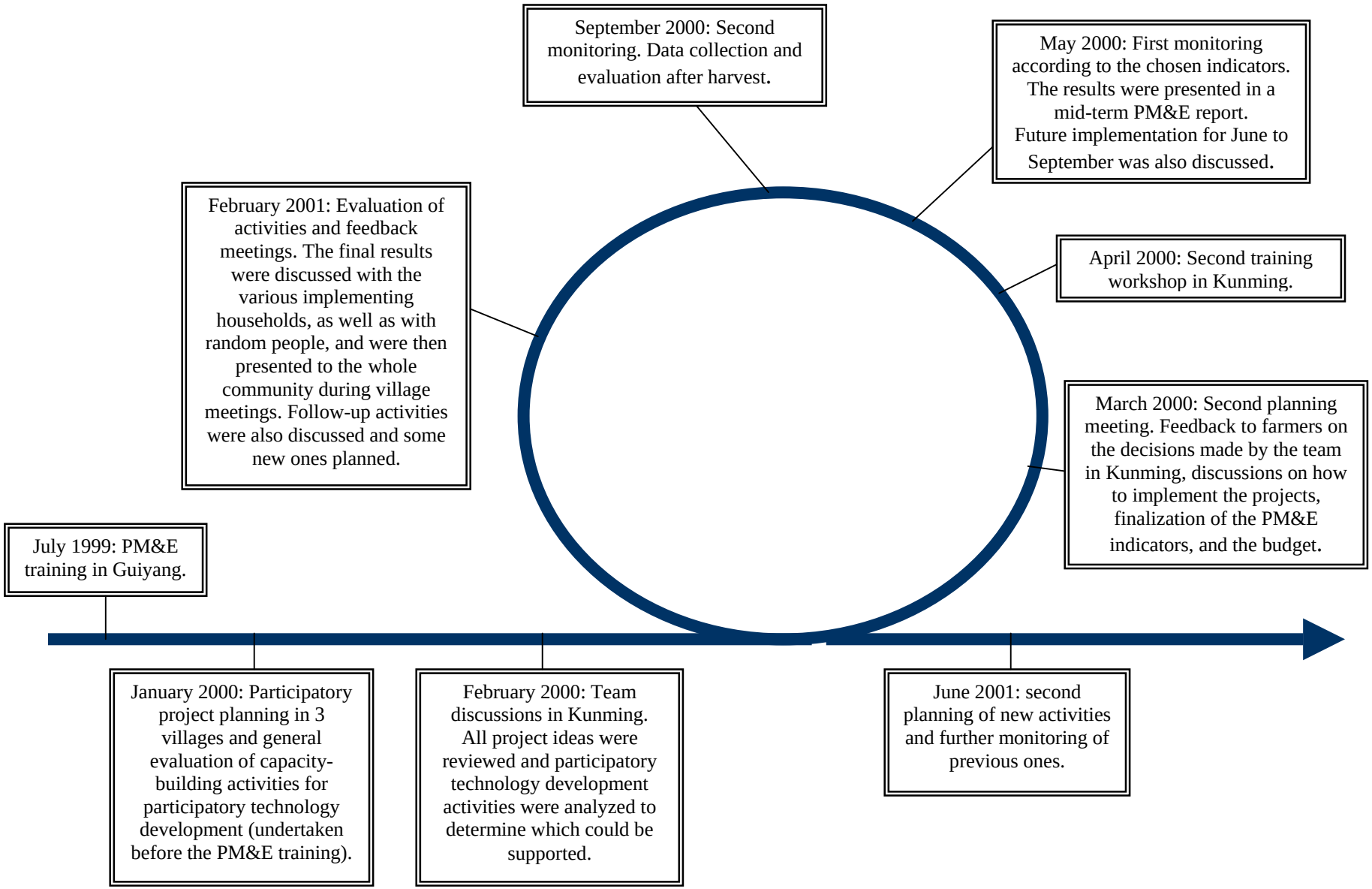
PARDYP: goals and process

The goals of the PARDYP team's PM&E work, as defined during the first training workshop in Guiyang (July 1999), were:

- To improve the project for development of a second phase,
- To identify problems encountered in the project,
- To determine new issues and new needs at the project site,
- To enhance the self-development capacity of local participants,
- To meet donors' needs,
- To increase the transparency of the project and, therefore, to increase accountability,
- To increase the participation of the various stakeholders,
- To learn from experience and mistakes.

Identification of these objectives marked the beginning of a step-by-step process that we have captured below (Fig. 6). In the following sections, we present the details and milestones of the planning, execution, and reflection that were carried out at the various stages so far. As illustrated in the figure, this process has *not* been linear.

Figure 6. The PARDYP PM&E process from July 1999 to June 2001.



The participants

The following people and groups have been involved in the fieldwork at various levels.

At the county level (Baoshan)

- Two officials from the forestry bureau have been involved in the planning, implementation, and monitoring of the rehabilitation and community forestry projects. They provide technical training to local people and were trained in participatory rural appraisal (PRA).
- Five officials from the hydrology bureau have been involved in the planning, establishment, and monitoring of the erosion plots and hydrological stations. They regularly train farmers in how to collect and monitor the hydrological data and the erosion plots data, which they then analyze. Several were trained in PRA and PM&E, and in water and sediment analysis methods (in Nepal).
- One person from the agricultural bureau gives advice on and provides local seed varieties.
- The land bureau provides secondary data for our research.
- The meteorological bureau provided technical support for the establishment of a meteorological station and helps process and analyze the data collected there.

At the township level

- One person from the forestry station has been involved in the project and cooperates with the forestry bureau in all of its activities.

At the village level

- Officials coordinate activities and take part in the planning and monitoring. They are the main providers of information about the various villages. As they are the local coordinators, it is particularly important to build relations of trust with them, if any activity is to take place.

At the community level

- The village leaders act as coordinators at the village level and take part in the planning and monitoring of activities.
- Farmers, both women and men, plan and implement community development activities and help monitor the activities carried out at the field stations. At the beginning, they only implemented some of the rehabilitation and the community forestry activities, but now they are also involved in the planning stages.

The PARDYP team

- Xu Jianchu is the project coordinator; Yang Li Xin, Qian Jie, and Stephanie Mas are responsible for the forestry, rehabilitation, and community development

activities; Gao Fu for the watershed dynamics studies; Wang Yu Hua for geographic information system (GIS) activities; and Ji Yunheng for researching biopesticides.

- Other members of the Department of Ethnobotany sometimes participate in specific research activities.

Work in the field: activities and outcomes

The PM&E activities can be divided into four parts (apart from the training process described earlier):

1. Participatory project planning using PRA, participatory technology development (PTD), and PM&E methods and tools
2. Monitoring and evaluation of activities
3. Feedback meetings with local people
4. Planning of new activities

Participatory project planning

In January 2000, the project team made its first PM&E field trip. Gao Fu (watershed dynamics studies), Qian Jie (the forestry, rehabilitation, and community development activities), Xu Jianchu (project coordinator), Wang Jianhua (ethnobotanist), Yang Zhiwei (botanist), Ma Xing (Baoshan Hydrology Bureau), and Zhao Mingshou (Baoshan Forestry Bureau) carried out PTD activities in three villages: Damaidi, Yangjia and Xizhuang (see Fig. 7).

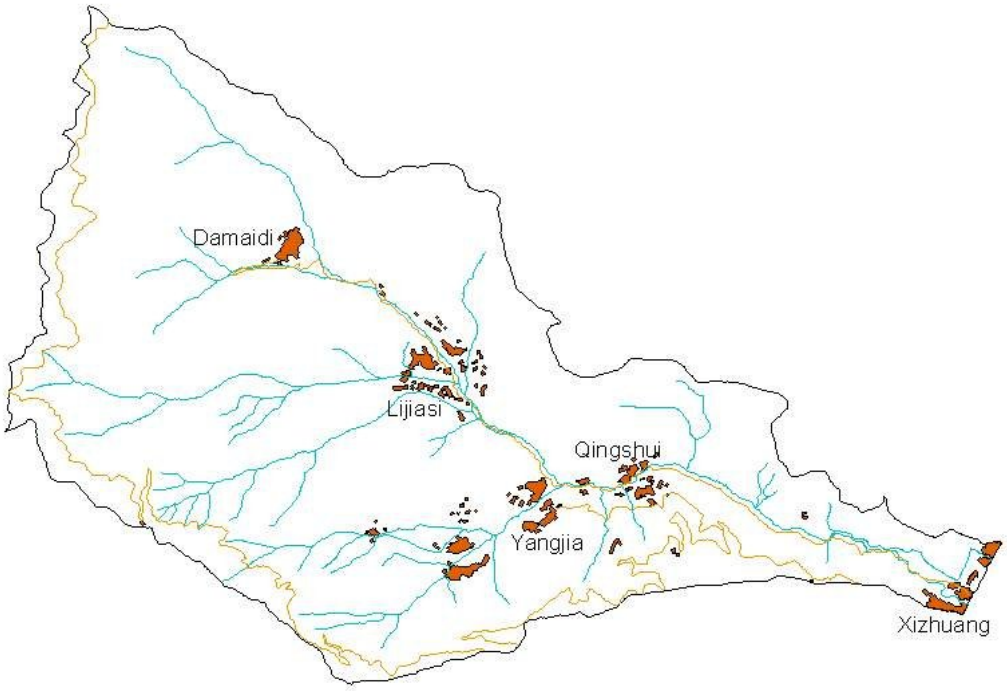


Figure 7. Map of the Xizhuang watershed.

In each village, the following steps were taken:

Step 1: Getting started:
The goal was to widen the understanding among all stakeholders (technicians and farmers) of the current situation in its ecological, socio-economic, cultural and political dimensions and to agree upon further steps of PTD for the benefit of rural people.
PTD-practitioners:

- Selected an area.
- Introduced themselves to the villagers/farmers.
- Built trust with the local people.
- Analyzed the existing situation of NRM.
- Established a basis for co-operation with the community, a group of families and with indigenous specialists.

Methods used:

- Community walk and transect map
- Social maps
- Participant observation of Indigenous Knowledge (and customs)
- Identification of indigenous specialists

Step 2: Looking for things to try (innovations)
The goal was to gather information about the potentials of Indigenous Knowledge for joint analysis and prioritization of felt problems and ideas for innovations (solutions)
PTD-practitioners identified together with the local population:

- The sources of indigenous knowledge (specialists, innovators, experienced farmers, forest people, healers)
- The sources of outsider information (scientific knowledge)

Methods used:

- Historical diagrams including information on : natural and social cycles, landuse and the history of the village
- farmer workshops,

Step 3. Designing experiments
The goal was to design innovations and experiments that suit the farmer's purposes and strengthen their knowledge, experience, agricultural practices (NRM), organization and self-confidence, improve their life quality/livelihood, and build the local indigenous capacity for experimentation.
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PTD-practitioners together with indigenous farmers:

- Reviewed the existing capacity and practices of local experimentation with NRM
- Planned and designed together selected experiments based on indigenous knowledge, which will be implemented by farmers/indigenous specialists

Methods used:

- Participatory Technology Analysis
- Design workshop

As a result, small grant projects were designed with volunteer farmers, detailed information was collected about their households, and monitoring and evaluation indicators were identified. In particular, the following questions guided the process:

- What do you want to do with this small grant?
- Why do you want to do it?
- What kind of support do you need, such as material, financial, and technical assistance?
- Who will carry out the activities in your family?
- When do you want to begin your project?
- How can we monitor the project and evaluate its success or failure?
- Who will/can monitor and evaluate activities during the project?

In February, the team discussed the results of the trip. We reviewed the field reports and discussed the cost and feasibility of each small grant project according to household action plan. We also discussed the role of the Baoshan Forestry Bureau staff for technical support in the participatory technological development process.

In March, the second project planning stage began. Qian Jie and Zhao Mingshou visited individual households in the villages to review their action plan for on-farm experiments, take final decisions about implementation of activities, and discuss the schedule and responsibilities for monitoring and evaluation. Eventually, for each small grant project, the action plans were finally approved by the project, which served as contracts with the local farmers.

Result in Damaidi village: Damaidi belongs to Lijiasi administrative village and is located in the upper reaches of Xizhuang watershed. It has about 90 households with 430 people and one primary school with three teachers and 60 pupils.

The total land area is about 231 mu (15.4 ha; 1ha=15mu) and the average amount of farmland per person is only 0.54 mu. The major crops are corn and wheat. Due to low fertility and lack of water for irrigation, productivity is low: only 150 kg/mu for corn and 100 kg/mu for wheat. Households have a total of 50 mu of tea gardens where old tea species have been grown for more than 30 years. This kind of tea has a low yield and is of low quality. Farmers themselves process the tea leaves, then sell them to a middleman in the Banqiao and Shaba town markets. The price is always around 8–10 RMB/kg (1 USD = 8.27 RMBRMB). They also have 73 mu of more than 4000 wild walnut trees.

The community meeting was held at the village leader's house. At first, eight farmers attended, then others joined in. Four groups of two people were formed for the PRA exercises; matrix scoring and ranking focused on livestock (Table 4).

The main issues and possible projects mentioned involved tea production, fruit production, and livestock. Although tea was an important source of cash income, production costs were high, as farmers had to purchase chemical fertilizers and pesticides. At the same time, the quality of the tea produced was low. The farmers wanted to experiment with new species, but these are expensive when purchased from the government extension stations. They also wanted training in tree grafting techniques how to graft wild walnut and other fruit trees and in how to improve management of orchard.

Four people volunteered to implement livestock development and tea nursery projects. Suggestions included the introduction of a new species of goat and the building of pig sheds. Training in grafting techniques was also suggested (see Table 4). The team mentioned that it had limited funds and would contribute mainly in terms of technical support; we pointed out that the farmers themselves should initiate the activities.

The project team discussed the mistakes that we thought we had made, what had been omitted, and how we could improve their tools. It was suggested that the social map include a "wealth" classification. In addition, it was recommended that the transect walk include the altitude of each land use form, and historical comments, such as land use changes and the policies determining them, land tenure changes, etc. The team discussed the feasibility of the activities suggested by farmers and how to improve the benefit-sharing arrangements. We realized that the farmers who had come to the meeting were either relatives or friends of the village leader. It was suggested, for example, that Qian Jie, who would be in charge of community development activities, approach members of the PRA network for advice on management styles for livestock development.

The projects approved after the team discussions were: building pig sheds, training in grafting of walnut trees, development of a tea nursery, and the introduction of new goat species.

Table 4. Results of matrix scoring and ranking of livestock with four households in Damaidi village.

Live-stock	As helper	Market value	Provide manure	Good taste for food	Low cost (labour and fodder)	Disease resistance	Easy breeding and growth	Total
Goat		*****	*****		*****	*****	*****	25
Cattle	*****	****	***		****	****		20
Buffalo	*****	****	***		***	****		19
Pig		****	****	*****		**	***	18
Horse	*****	****	**		***			14
Poultry		****		*****	**		***	14
Dog	*****							5

Note: All farmers thought goat meat tasted best, but they did not consume it themselves due to its high market value.

Result in Yangjia village: Yangjia belongs to Qingshui administrative village. Located at about the middle of the Xizhuang watershed, it has 56 households with a total of 236 people. There are two primary schools nearby, in Qianshui and in Langmaidi. Livestock includes buffalo and pigs, with an average of one or two per household. Most of the men take outside jobs during off-seasons.

According to the wealth criteria developed by the farmers, 16 households (30.8%) are rich, 27 (51.9%) are considered "ordinary," and 9 (17.3%) are poor (Table 5).

Table 5. Local criteria for ranking wealth in Yangjia.

Rich household	Ordinary household	Poor household
Has savings Produces enough food by farming Has more livestock and poultry All family members are healthy Makes money through off-farm employment Can build new house	Has no debt Needs to buy rice from the outside market	Has debts Has bad land with landslides Has less livestock Has sick or handicapped family member(s) Has more tuition burden Members don't want to work hard Has unlucky marriage Has naughty children

Farmers have access to about 135 mu (9 ha) of farmland at an average of 0.57 mu per person. Due to better and more informed management, crop yields in Yangjia are higher than in other communities: 300 kg/mu for corn and 200 kg/mu for wheat. Tea gardens occupy about 120 mu, and farmers put a lot of effort into managing them. Tea is the main source of income and productivity is high. Local farmers are known for being good tea producers. They are currently planning to plant new species on 300 mu of swidden. Local forest resources are also abundant because villagers follow strict regulations for the management of their communal forests.

In Yangjia, most villagers had been informed of the meeting, but only 12 to 15 attended. Four groups of three people were formed. The same PRA tools were used as in Damaidi, but a historical diagram of the main environmental changes in the village from the 1950s to the 1990s (natural disasters, crop species, fertilizers and pesticides used, forest cover, and farming technologies used) was added. Indeed, landslides and finding ways to control them were identified as a main issue in Yangjia. Based on previous information about the village, scoring and ranking focused on fruit tree and bamboo species (Table 6). In the afternoon, many project ideas were put forward, but at first no one wanted to volunteer to carry them out.

Table 6. Results of matrix scoring and ranking of fruit trees with six farmers from different households in Yangjia.

Fruit tree	Good taste	Easy to sell	High productivity	Less land occupation	High market price	Total
Little apple	****	****	*****	*****	****	22
Walnut	*****	*****	*****	*	*****	21
Peach	*****	***	****	****	***	19
Persimmon	**	*****	*****	**	*****	19
Plum	***	**	*****	*****	**	17
Pear	*****	**	**	**	**	13
Apple	*****	*	**	****	*	13

Several main issues and proposals emerged. Soil fertility had to be improved to offset the increased population and associated reduction in the amount of land available per household. The problem of landslides was discussed, as well as the need to improve tea and corn yields to have more to sell or exchange for rice.

Project ideas included introducing soybeans as a new crop. Farmers thought soybeans would be suitable for the local climate and would also improve soil fertility. The team promised to try to get more information about suitable species. Tea and walnut nurseries were also recommended, as well as "fruit" or sweet corn. Farmers had grown corn only for fodder, not as a food crop, but they had heard of a species that humans could eat and wanted to try it.

Finally, they also wanted to plant bamboo to control erosion and stop landslides. However, they pointed out that this would not be possible because the lands where landslides occur were in private hands, belonging to three or four households. The owners were willing to exchange this land for communal property to make the project possible, but the other farmers would not agree to trade good communal farmland for land that was degraded. For the private landowners, planting bamboo was out of the question at that time, because even though the land was degraded, it still had to be used to produce wheat and corn. Planting bamboo would interfere with these crops.

At first no one volunteered to carry out any of these projects. Everyone wanted them to be carried out on communal land so that everyone would share the benefits and no one would risk their own land. Lengthy discussions followed in which the project team explained that this was not really acceptable. Eventually, it was decided that tea and walnut nurseries could be established on communal land, while the village leader and another farmer would carry out soybean and corn experiments on their own land. For the bamboo project, each farmer would plant trees and the team would then pay them 2.5 RMB for each tree that survived.

The projects that were approved after the team meetings were: an on-farm experiment with new corn varieties, an on-farm experiment with soybeans, and establishment of tea and walnut nurseries.

Xizhuang village: Xizhuang belongs to Wofo administrative village. It is located in the downstream portion of the Xizhuang watershed and has 105 households with a population of 410 people. It has several primary and high schools. Most (80%) of the men engage in off-farm employment and the living standard is better than in the other two villages.

Villagers have paddy fields with high productivity, as well as old tea gardens planted in 1959, which are less productive. Because there are no forests within the area, farmers must buy firewood for daily use in the market. A cement factory nearby causes air pollution.

The process in Xizhuang presented some new challenges. The team arrived early in the morning, and waited a long time for the villagers to meet, but no one came. When we approached the households directly, farmers said that their leader had not informed them about the meeting. In fact, the project team had had some conflict with this village leader in the past. In the end, we carried out the various PRA exercises in individual households

and asked farmers to come to the public place in the afternoon. To our disappointment, only two people came.

The projects suggested by the two people who attended the afternoon meeting were the development of village wastelands and the planting of several fruit trees. However, the farmer interested in fruit trees later withdrew because he thought the team was lying about providing support and would later ask for money; he tried to convince the other farmer to leave as well. The wasteland management project was approved after team discussions.

Monitoring and evaluation of activities

The following community PTD activities were evaluated through interviews with farmers according to the framework established by the PARDYP team during the first training workshop in Kunming (see chapter 2, Table 3).

Nursery development: Most farmers considered the establishment of the nursery for high-quality tea species in Lijiasi (Damaidi) successful. The official who implemented the project mastered the skills necessary for nursery development, and the survival rate of the plants was high (over 85%) due to good management, despite many problems caused by the cold weather in 1999. All the tea seedlings were sold to villagers at a low price, and the nursery provided cuttings for the other farmers.

On the other hand, the walnut nursery in Qingshui (Yangjia) was considered unsuccessful due to poor management and a failure to share the benefits. Problems identified by the farmers were:

- The project had been negotiated only with local officials, who then submitted it to someone else. No contract was established to determine the responsibilities of the various stakeholders, so when conflicts arose, the local officials did nothing.
- The project workers lacked background information about the community. The local farmer was incapable of implementing the project, so no one was surprised at the low growth and survival rates.
- No monitoring and evaluation system had been established. Even though the PARDYP team paid a salary and allowance to the farmer, he sold the walnut seedlings and pocketed the money.

Establishment of a pear orchard: The PARDYP team provided good-quality pear seedlings to Yangjia village at no cost. Villagers planted them on both private and communal land. The trees grew well on the private property (survival rate over 95%), but most of the trees on communal land were stolen by other farmers.

Regarding the pear variety, the following advantages and disadvantages were noted by farmers (no breakdown by sex):

Advantages	*Disadvantages*

• Growth rate was excellent; trees produced fruit in 3 years. • The pear trees could be intercropped with soybean and squash, thus solving the problem of more people/less farmland. • The necessary management skills are not complicated; management does not require more time or labour.	• The PARDYP team did not provide enough information about the pear species. Farmers said they did not know anything about taste and other characteristics. • Villagers also lacked market information. Although they were eager to plant many trees, they were uncertain what the demand would be in 3 years.

Training in grafting and pruning: Many farmers found this kind of training necessary. The skills are simple, easy to learn, and are of great benefit. However, they complained that the selection of trainees was not made public; few people knew who had been trained, so the techniques were not passed along to others. Keeping up the process through farmer-to farmer training and farmer's network is key to sustainability of PTD activities.

Livelihood development experiments implemented in 2000 were also monitored through farmer interviews, according to the criteria and indicators established by the farmers during the planning stage (see Table 7).

Table 7. Example of an information chart prepared by farmers during the project planning phase.

Item	Information collected
Stakeholder	Ms WS, female, 31 years old
Household	Husband, 33 years old; stepmother, 60 years old; son, 5 years old; daughter, 10 years old
Land use	2 mu of dry land, 4 mu tea garden, 0.07 mu home garden, which can be modified as tea nursery
Livestock	2 pigs, 3 buffaloes, 7chickens
Income	From selling tea (usually 50 kg), 500 RMB; selling pigs, 1500 RMB; selling chickens, 100 RMB; off-farm employment, 2000 RMB
Expenses	Rice, 1000 RMB; fodder, 200 RMB; school tuition, 500–600 RMB; maintenance, 500–600 RMB
What?	Establish nursery stock of new tea species
Why?	New tea species has high yield and higher market prices. The nursery stock can help improve local people's tea gardens in the future.
What do you need?	Materials: tea branches, pesticide, long plastic pipes; labour: preparation of land by farmers; technical support: transplanting, nursery management
Who?	Ms WS and her husband
When to start?	Transplanting should take place in June 2000
Evaluation indicators	Survival rate of tea seedlings; the number of seedlings bought in the community; the price of tea seedlings (should be lower than the market price)
Who will monitor?	Local coordinator and officials

Note: 1 mu = 0.066 ha or 666 m^2. 1 United States dollar (USD) = 8.27 yuan renminbi (RMB). The total budget of 1220 RMB consisted of 800 RMB for tea branches and 420 RMB for other materials.

Livestock: To start a "passing the gift project," three households were selected in Damaidi village and their purchase of seven goats was subsidized. The plan was for the first household to care for the goats for 2 years; at that point the second household would

select seven goats from the group and raise them for 2 years; then the third household would choose goats. After 6 years, officials from Lijiasi administrative village would select seven goats from the third household and distribute them in a new village to replicate the project. In the first year, the number of goats had already increased to 11.

The project team decided to adopt this type of project following their experience at the planning meeting, where they realized that all the farmers who attended were either relatives or friends of the village leader. The team wanted to find a way to keep from helping only a select (and likely elite) group and extending the benefits to other people.

It is important to plan small grant projects in detail. Farmers, together with field staff, should try to think of all the issues that will arise and the support they will need during the implementation stage and include them in the funding. Once the budget has been approved, the coordinator should be strict about not providing any extra funds. In the project in Damaidi, for example, "extra" money was included in the budget for buying medicine. This is important, as farmers usually ask for more and more money during project implementation.

A second project involved pigs. Pigs are traditionally kept under the houses in a space that is difficult to clean and where disease spreads easily. One household in Damaidi was assisted to build pig sheds to improve hygiene and control diseases. Previously, this household had been able to raise six pigs a year; with the pig sheds, it can produce more than ten.

Wasteland development: One farmer in Xizhuang village volunteered to carry out on-farm experiments in wasteland development. He was given a small fund to build a house close to the land, 2 km from the village. He was trained in walnut nursery development and fruit tree production, then provided with free walnut, corn, pear, plum, and grape seedlings, which he planted. He also raised 30 rabbits, five hives of honeybees, a donkey, and 10 goats. In addition, he dug a pond, which produced more than 50 kg of fish.

This experience showed us how diverse farmers' ideas can be when it comes to increasing their household income. In this case, diversification reduced the risk that the household was facing by depending on only one main farming activity.

Demonstration of new crops: Assistance was provided to one household in Yangjia to plant soybeans on 1 mu of land with low productivity to reestablish the balance of soil nutrients and to compare this crop with the corn and tea originally planted, in terms of social, economic, and ecological benefits. Growing soybeans appeared to require less labour and time and to reduce soil pollution, as it only requires small amounts of fertilizer; it also increases soil fertility (see Table 8). Soybeans can also be traded for more rice: 1 kg of soybeans can be exchanged for 1 kg of rice, whereas 2 kg of corn are needed for 1 kg of rice. Corn is necessary to provide fodder for pigs, but brings no direct economic returns; tea brings economic benefits, but growing it is labour intensive, especially for women. Moreover, the price of tea has dropped this year, as potential purchasers on the

international market now know that local farmers use a dangerous pesticide forbidden by the agricultural bureau. (Research is being carried out to develop remedy this situation.)

After this experiment, farmers decided to extend the area planted with soybeans to 50 mu. The PARDYP team provided them with 250 kg of seeds this year (February 2001).

Table 8. Economic comparison of crops grown in Yangjia.

Crop	Labour input	Capital input	Average yield (kg/mu)	Market price RMB/kg	Income RMB/mu
Soybeans var. 661	Medium (simple management)	Low (average <40 RMB/mu, including seeds)	120	2.40	288
Soybeans var. 028	Medium (simple management)	High (more than 150 RMB/mu, seeds are expensive)	180	2.40	432
Corn	High (fertilizing, weeding, etc.)	High (average 70 RMB/mu)	100	0.76	76
Tea	High (applying pesticides, collecting tea leaves)	High (average >100 RMB/mu)	50	8	400

One species of high-yield corn (Dianfeng #4) and three species of sweet corn, which can be sold at a high price, were introduced in Yangjia. With Dianfeng #4, production increased from 300 kg/mu to 525 kg/mu. This variety cannot be used for fodder, as the skin is too thick. However, it can be exchanged for rice, which cannot be planted in the uplands and thus has to be purchased by farmers. Sweet corn varieties, on the other hand, did not grow well in the uplands, because of the low temperature and strong winds. It seems that a combination of the new variety of high-yield corn on good land and soybeans on the low-productivity lands will give the farmers sufficient resources to purchase the rice they need.

Nursery development: In June, eight farmers were trained in tea nursery establishment: six from Damaidi and two from Yangjia. In July, two tea gardens were established with different management systems. In Damaidi, the nursery is managed by one household, which will sell plants to the other villagers. They planted 27,000 seeds this year with a survival rate of 95%. In Yangjia, the community owns the nursery. One farmer was hired to manage it and he gets a salary of 2000 RMB a year. The villagers, who will share the plants, planted about 60,000 seeds. However, most of them did not participate in the training and did not plant the seeds carefully. The nursery was also badly managed; at one point, the field was not watered for 4 days. Thus, survival rate was low, at only 70%.

This project made the team realize that it is better to start small, at the individual household level, then move to a larger scale if it is successful. Large-scale activities are much harder to manage. Moreover, when farmers themselves take risks, they are more careful and more likely to be successful. If they have nothing to lose, they also have little to gain.

Two walnut nurseries were established in May, following the training of seven farmers in Yangjia and Xizhuang. Overall, the survival rate is 95%, and 400 plants are now available for planting in the upland gardens.

Training in grafting and other agricultural techniques: For 3 days in February, seven farmers in Damaidi were trained and provided with knives, wax, thread, plastic film, twine, whetstones, and walnut branches. A total of 2500 walnut trees were grafted with a new species. The two technicians from the local forestry bureau, who trained the farmers, were expecting a survival rate of 60%, but the actual rate was only 40%. However, the farmers appreciated the training and felt confident about their newly acquired skills. Although the results of the grafting experiments on communal land were poor, survival rate was high in villagers' home gardens, and they have used their new skills to graft peach and pear trees as well. They were eager to try again next year and to organize farmer-to-farmer training.

Although this project appeared to be a failure, the farmers actually viewed it as very successful. They were not concerned about the low survival rate, but helped the team determine why it was low and how to improve it for the next time.

In June, two farmers from each village (Damaidi, Yangjia, and Xizhuang) and their village leaders visited the Baoshan tea extension station and the exhibition of new agricultural technologies. They were particularly interested in tea nurseries, tea species, and planting techniques. However, no women became involved in the activity, making the team aware that they needed to pay more attention to women's roles and relationships (with men and with other women), interests, and constraints. Increasing understanding of gender roles and relationships is equally important for project members, local partners, and local community members.

Feedback meetings

The third element in the cycle consisted of the very important feedback meetings. Returning to the villages, the team interviewed participating and nonparticipating household members, both women and men. The overall objectives of this step were:

- To find out, through direct interviews with the farmers, how much they knew about the project, what they thought about the various activities, and what kind of new activities they would be interested in developing
- To present, during village meetings, the overall goal of the project, explain how it was organized and why, and present all the activities and results in a holistic way and get feedback from farmers
- To introduce the project style and approach and the concept of self-development
- To plan for the extension of the soybean project in Yangjia and of the peach tree project in Damaidi and Yangjia

The schedule was:

- *24 February, Damaidi village:* Interview farmers during the day; conduct feedback meeting at the school in the evening
- *25 February, Yangjia village:* Household interviews in the afternoon; meeting to plan peach tree and soybean extension projects in the evening
- *26 February, Yangjia village:* Household interviews during the day; first feedback meeting and discussions in the evening
- *27 February, Yangjia and Damaidi:* Second feedback meeting in Yangjia in morning; meeting to plan peach tree project in Damaidi in the afternoon

The team carried out semi-structured interviews and sometimes open discussions with both participating and non-participating villagers. With those who had taken part in the projects, they focused on evaluation of the various activities. In addition, randomly selected households, who were not directly participating in the projects, were also asked the following questions:

- What had they heard about the project?
- Which activities did they think were the most appropriate in their context and what activities did they prefer?
- Which activities had they taken part in and what role did they play?
- What suggestions did they have for improving activities to benefit more people?
- What kinds of activities would they like to develop in the future?
- What did they think about the project?
- What kinds of activities helped people become richer in their village and in nearby villages?
- Other more specific questions, depending on who was being interviewed, concerning their interests, specialization, etc.

Evaluation of project activities by participants: The building of pig sheds was considered successful. Being able to raise more pigs significantly increased household income, but also the work burden of family members, especially the women, as they were responsible for preparing fodder. This activity included finding green fodder, chopping it up, cooking it, and feeding it to the pigs. Having to prepare nearly twice as much fodder as previously meant that the women in the participating household had considerably less time for other activities. They were thinking about purchasing an electric grinding machine, and wanted the PARDYP team to provide a small loan for this purpose. The team had to refuse, because we only disbursed additional money for small grants projects when absolutely necessary; but the team took the opportunity to suggest that they organize as a group to share the costs. They could then charge user fees to other farmers outside the group, who would like to use the machine.

The “passing the gift” project was still successful, and the number of new breeds of goats was increasing to the point where some could be passed to the next household sooner than expected.

Many farmers were very satisfied with the tea nursery initiative. All of the tea plants from the Damaidi nursery were on order, sometimes by farmers from distant villages. The survival rate remained high.

In Yangjia, however, the project was already deemed to have failed. In February, the plants were under cover, so it was impossible to determine the exact survival rate, but the farmer who managed the nursery and forestry bureau staff expected it to be less than 50%. According to the nursery manager, this was due to several factors. First, the cuttings were done by about 20 people, very inconsistently, so that when another group of 14 people came to plant them, they had to plant some deep and some shallow, and ended up not taking sufficient care over the work. Second, after planting, the cuttings should have been shaded, but there was no funding for this, and none of the farmers had enough interest to invest in the project. Finally, after only a month, the manager quit and the field was left unwatered for about 4 days until someone was found to replace him. This management issue was discussed in depth with the villagers, who had wanted to plant the peach trees on communal land. Eventually, they decided to plant them instead on upland fields with the different farmers managing their own plots.

During the February field trip, the PARDYP team planned for the extension of the soybean crops to 50 mu. This involved about 38 households, each planting 2.5–10 kg of seeds. The seeds were distributed in April 2001, but no monitoring and evaluation indicators have been established so far. This will be done during the next field trip.

The establishment of new corn varieties was a failure. Although the high-yield corn grew very well, farmers reported that the local extension station wanted to introduce another variety, which they prefer. It tastes better, is easier to obtain, and although the productivity is not as high as the variety from our project, it is acceptable.

For the other activities, the results and evaluations were unchanged.

Comments from non-participating households: Most of the non-participants interviewed did not know about PARDYP. However, when asked about the various activities, they were aware of them, but surprised that they were all part of the same project. The team thus spent quite some time explaining the project and introducing themselves. Most people thought the activities were good and wanted to take part in them.

In Damaidi, a woman had tried to introduce new tea cuttings, but most of them died, possibly due to a poor use of fertilizers, she suggested. Thus, when the plants from the tea nursery projects are sold, a new training session on tea planting should be organized. In Yangjia, the village leader wanted to establish a nursery for nut trees, as nuts can be stored more easily than fruit and are also easy to sell.

In both Yangjia and Damaidi, some farmers wanted to establish nurseries for propagating a wild vegetable called *cilabao* (local name). This species has been traditionally used in the watershed for fencing and eating (household consumption), but it also has high

market value. During the field trip, a propagation project was planned by Yang Li Xin and two farmers, one from Yangjia and the other from Damaidi. Both farmers were trained to take cuttings from roots. They will be paid to acquire the cuttings from existing trees around the village and plant them on small experimental plots (about 0.3 mu in Yangjia and 0.5 mu in Damaidi). Later this year, they will be trained further in management techniques and, if the activity is successful, farmer-to-farmer training will be organized to scale-up the project.

Several farmers in Damaidi were also interested in applying for small loans from the project; for example, to buy a grinding machine to make flour or to prepare fodder. In Dawenke, a group of women would like to buy a machine to make *toufu*. These kinds of projects could become part of a micro-credit project, which could eventually be sustained by village funds. A few years ago, for example, Yangjia was given about 100,000 RMB by the government, in compensation for a road built on its land. Damaidi also received funds, but no one seems to know what happened to them. This village has no leader, because no one wants to account for the lost funds (which might have left the village together with the previous leader). The idea of a micro-credit project might motivate the farmers to look into this issue and try to solve it.

Other discussions during the field visit touched on the general development situation in the various villages and on the most significant changes that have contributed to the improvement in the standard of living. In Yangjia, the team had lengthy discussions about the various laws governing access to forest products.

In Damaidi, a project had been initiated by Gao Fu to overcome the shortage of water for irrigation during the dry season (winter); this had been identified as one of the main issues of concern during PRA exercises in 1998. In September 1999, interviews had been conducted with farmers in Damaidi and in January and August 2000, planning meetings had taken place. At first, farmers decided to build 30 small individual tanks (1.5–4.5 m^3) next to their farmlands. Monitoring and evaluation indicators that were established included increased yield and more time available for other work. A local committee was established for planning, building and managing the water conservation system. It included four people elected by the villagers and a local official. In November, farmers finished building 34 tanks and asked PARDYP to support them to build another large pool (90 m^3). The PARDYP team said that it would be able to contribute only a very small amount of money. However, farmers started construction and the tank was completed in December 2000. During the team's field trip in February, the leader of the Lijiasi administrative village said that it had still not been paid for. The team did not discuss the issue then, as we did not know enough about the project and knew that Gao Fu would evaluate it in April.

Village feedback meeting in Damaidi: The team planned a five-step process for the meeting:

- Step 1: Explain the project in its broader context, i.e., cooperation with other countries and the fact that what is learned in this village might help poor people elsewhere and contribute to raising the standard of living. The team hoped that this would motivate the villagers. We wanted to introduce the KIB and ourselves, and our project style and methods, and to highlight that the team wanted to learn from the villagers, share ideas, and provide support for their self-development and reflection on their own activities.

- Step 2: Using posters, present all project activities for the year, including the research activities, so that the villagers would understand the whole process and the project's logic. At the end of the presentation, we intended to ask if there were other activities that the villagers would be interested in.

- Step 3: Facilitate group discussions. At first, we thought we would ask three questions: What is the activity good for? Who is benefiting? and What else/other kind of support do they need for the activity? But on further reflection, we decided on only two: What benefits does it bring? and Who is benefiting? At the end of the discussion, we would ask what kinds of activities the villagers would like to add.

- Step 4: Present the results of the discussions and rank activities, including the newly proposed ones, by asking people to move to the poster representing their preferred activity. The team planned to ask women to decide first to allow them freer choice. We would then remove the poster with the largest number of votes and repeat the process for other activities.

- Step 5: Use the method described in step 4 to rank the activities the villagers would like to take part in.

The actual process contained a couple of surprises. The discussion using the posters was easy to follow and everyone looked very interested. Five groups of six or seven people were formed and given nine sheets of paper. The team asked each group to answer the first question only (What benefits does it bring?), using one sheet for each activity and drawing the activity symbol on the top. The results are presented below (Table 9).

Table 9: Benefits of nine small projects in Damaidi, identified by groups of villagers.

New corn varieties (2)*	**Tea nursery (2)**	**New goat species (5)**
• high yield • can exchange for rice • makes wine • fodder • food • income generation • diversify of crops	• income generation • high yield • easy to collect • conserves water • new skills • drink • provides good cuttings for the community • high survival rate	• income generation • appropriate for development in mountainous areas • people already have the skills • provides fertilizer • produces a new species • food • benefits several people due to "passing the gift"

		• someone thought there are other species, better adapted to the cold weather
Soybean crops (3) • can be intercropped with other higher plants; intensification • income generation • food • bean curd • good for crop diversification • can be exchanged for other food	**Reforestation (3)** • good for water • firewood • building materials for houses • timber for selling • benefits everybody • prevents floods • erosion control	**Peach trees (5)** • income generation • provides branches for grafting • leading to benefits for whole community • food
Pig sheds (2) • income generation • fertilizer leading to good harvest • only benefits the people who have one	**Training (1)** • new skills/knowledge	**Hydrology (2)** • controls drought; increases production and income generation • water tanks: increase productivity and reduce burdens

* The number in parentheses represents the number of groups that answered the question for this project.

Most of the groups of men discussed only the activities they were interested in, whereas women followed the whole process trying to discuss all alternatives. It was difficult to facilitate the meeting, as there were only two facilitators for the five groups (Qian Jie, who moved from one group to another, and Xiao Li). Thus, the process was "a little messy," but quite productive. The meeting started late (between 8 and 8:30 p.m.) and lasted a long time, as people had many questions after the group discussions. In the end, the team was unable to carry out all the planned steps, although it seems that all the people who attended the meeting (about 35) now had a good understanding of the whole project and the links between the various activities. The discussions were lively, and people agreed that this kind of meeting was excellent: "We help them, they help us."

The other positive outcome was that more and more people trusted the project team and wanted to take part in the various activities. Only relatives of the village leader had attended the previous year's meeting, so only a select few villagers had benefited from the first year's activities. (The team was told later that other people had been informed of the meeting, but did not attend because they were not interested and did not believe what they were told about the project. They thought the team was like the usual business people who come to their village and try to trick them. A few years before, a man had trained them in walnut grafting, given them branches, then asked for a percentage of the production.)

Based on the team's experience in Damaidi, we decided to simplify the process for the meeting in Yangjia. However, we felt that it was good to have started in a rather "complicated" but holistic way rather than oversimplifying. The ranking exercise did not pose a problem. Although we did not have enough information for our "own" evaluation

(according to plan), the meeting benefited local people. The team managed to explain the project and its logic, as well as motivating the villagers. For future meetings, we thought that it might be a good idea to train suitable people to help with facilitation.

Village feedback meeting in Yangjia: The plan for this meeting was as follows.

- Step 1: Presentation of group activities.
- Step 2: Group discussions. The team intended to explain why group discussions and teamwork are important. We were hoping to find two reliable people (e.g., the village leader and the man who managed the tea nursery), and explain to them the process of group discussions and their logic and ask them to help facilitate. For the discussions, the team planned to divide the villagers into three groups, each discussing four project activities, thinking about the benefits they bring, then selecting their favourite project, and explaining why.
- Step 3: Presentation of results. The team aimed to ask the villagers whether they agreed or disagreed with the results.
- Step 4: Wrap up by discussing other activities considered to be more suitable.

On the day the meeting was scheduled, it rained all day. The village leader warned that people would not come because the paths were very steep and dangerous in the dark when they were slippery. In addition, the next day was market day. Only six or seven people made it to the evening meeting and most of them had been among those planning the peach tree project the previous night. They explained that although people knew that the project was good, they were sometimes lazy. Also, most of the men were doing off-farm work at that time, and women alone with children could not leave their houses empty at night. The participants had mainly come to put their names on a list. They made excuses, but did not really see believe that village meetings were important and thought they could just come and order trees.

The villagers and team had a long discussion about sustainable development, about the process that PARDYP project team wanted to initiate, about the importance of group meetings and sharing and working together. The team explained that they were not there to collect shopping lists. Frustration arose because the soybean activity still had to be planned before the team left, and we still had many questions. Should only the people who attended the meeting be included in the soybean project? How could they plan for the others? Wouldn't that make it too easy for them? The PARDYP team could not just accept orders for plants, because we would be the ones taking the risk. If the project was not well planned and included everyone, the PARDYP team would risk losing a lot of money!

The team asked the villagers present how they could help start the self-development process in the village. The village head said that he would do everything he could to organize a meeting the next morning and make sure a lot of people attended. He would also finish drawing a map of the soybean extension project with farmers. He asked the team to be patient and assured them that people would start understanding the project

little by little and would begin participating more and more. He explained that the process was very different from anything they were used to. Usually, government officials would come to the village to talk only to him and he would have to pass the orders on to the others, e.g., “develop 200 mu for walnuts.”

The villagers made drawings to illustrate the two approaches. The drawings showed that they thought both the government and PARDYP brought them benefits, but the government forced them to accept and follow its ideas whereas PARDYP did not try to force anyone. Villagers thought that the PARDYP team wanted to do things together so that the villagers could do them alone later. They also understood that the PARDYP team was interested in knowing details about the various activities to make sure that the project would be successful. On the other hand, they depicted government staff as coming to the villages only when the villagers were doing things. Government staff were not concerned about whether the project was successful; in contrast, in the eyes of the villagers, the PARDYP team seemed to care about their success.

Following this enlightening presentation, the team asked the villagers if they thought other farmers felt the same way. The village leader replied that other farmers might think differently at the beginning, but after they learned more about the project they would certainly agree. He pointed out that he had not trusted the team in the beginning, because of many previous problems with outsiders. The team explained that this was exactly why we found group meetings important.

As the team was unsure about attendance at the next morning’s meeting, we decided to provide feedback on the activities and ask the current participants to be prepared to share the results with other farmers if the morning meeting was cancelled. The team made the usual presentation with careful details about where the activities took place, the methods, PRA, PTD, the research process, etc. One of the women was astonished at the extent of the activities, and the other farmers all thought the presentation was very interesting. They were particularly impressed by the pig sheds and how many pigs could be raised that way.

The village leader reminded the villagers that the PARDYP team was not the government and that they had to understand that it could not do everything they wanted and that it did not have a great deal of money. However, the team had already done many good things. Everything was also planned carefully. He told the other farmers that if they also planned carefully, then PARDYP might support their activities in the third year of the project. He speculated that PARDYP might be able to help establish a development base for nut trees.

Returning to the soybean project, the village leader had a good idea. The previous year he had planted soybeans on his land. Given that PARDYP would provide a new generation of seeds this year, he wanted to continue planting the “first” variety for comparison and to find out for how many years or generations the seeds could keep producing well. He had also considered the sustainability of the peach tree project. He learned that peach trees produce a good crop for 3 years, but after that production decreases. He had allowed

for this by planting different species in his courtyard, so that if the peach trees did not keep producing well, he could graft other species onto them.

Many people came to the second meeting. The team followed the plan, but divided the participants into two large groups for the discussions, one facilitated by Qian Jie, the other by Yang Li Xin. They had prepared two panels with a drawing of all the activities with ample space for writing. A circle in the centre allowed participants to indicate which they thought best.

Qian Jie facilitated a women's group. A high school girl, who had been interviewed the previous day, was asked to be the recorder. The women discussed all of the activities, and Qian Jie answered their questions. They were then asked to choose one preferred activity and discuss it in more detail. Because they were reluctant to do this as a group, each woman was asked to state her preference; all chose activities involving either pigs or chickens. Everyone in Yang Li Xin's mixed group went straight to the panels to record their preference and provide reasons, which Yang Li Xin wrote in the various boxes. Both groups finished at exactly the same time and the two facilitators presented the results. Finally, Qian Jie briefly repeated who the team members were, why they were carrying out this exercise, how it would contribute to the project, and the reason for this approach.

Planning new activities

Yangjia: The team planned two projects — planting soybeans and peach trees — on the first night during a meeting with all the farmers who had upland fields. Thirty-eight households were going to take part in the soybean extension project and each required 2.5 to 10 kg of seed.

When planning the peach tree project, the team started by reminding the farmers how most of the pear trees that had been planted in the village previously had been stolen. We asked for suggestions on how they could make sure people would not steal the peach trees. The villagers replied that they were going to impose penalties for stealing, and the village head suggested painting the trees. The team asked them to draw a map of all the fields, showing the farmers' names, the size of their land, and the number of trees they wanted to plant. The total area for the trees came to 23.8 mu and about 1000 trees were needed.

We then discussed management, support needed, and problems that might occur. Farmers asked for technical support concerning cutting and grafting techniques, the use of pesticides and fertilizer, removal of the flowers and collection of the fruit, and early maturation of fruit (to be the first on the market). They also mentioned market studies and advice on what they can intercrop with the trees.

After completing the map, several women went outside to chat and then left. Immediately, the village head told the men they could now start discussing the rules and would be able to think better as it was quieter! They decided to set a fine of 500–1000 RMB for stealing trees, and all participants would have to support the other households in looking for the

stolen trees. To benefit other people in the community, they decided to provide branches to other households and even to other people in the valley.

Lijiasii: Zhao Mingshou (of the Baoshan Forestry Bureau) and Yang Li Xin described planting and watering techniques. When many new people arrived, Qian Jie suggested that someone who had listened carefully to the explanation could repeat the information. At first no one volunteered, but then one of the officials of the Lijiasi administrative village spoke, describing the technical aspects of the activity. He also mentioned possible conflicts over land boundaries and asked farmers to respect the decisions of the village committee, because they would be for the good of all. He stressed that villagers will have to establish rules about plot boundaries so that farmers do not plant trees too close to each other.

Farmers all wanted to know if it would be possible to plant the peach trees a little closer than usual to take advantage of the characteristics of the species (matures earlier, tastes good and is attractive). Then they discussed management. Again, the most important issue was preventing people from stealing the new species. Although local institutions already existed for dealing with stealing from farmers' lands, a woman said that the rules should be revised and communicated to all households. Women were more eager than men in speaking out about rules.

The new fines that the group established were:

- For stealing a tree or plant: 300 RMB
- For stealing one branch: 150 RMB
- For trespassing by livestock: 5 RMB per step
- For trespassing by poultry: 10 RMB per animal
- For trespassing by people: 50 RMB
- For each piece of stolen fruit: 10 RMB

Then, the farmers discussed how to implement the regulations. Eventually, to encourage people to speak up when they witness stealing or trespassing, they decided that the witness would get 30% of the fine, the landowner would get 15%, and the village committee 55%. The later sum would be used to buy fertilizers, tools, etc., for the project. At the end of the meeting, the team decided who would plant how many trees, but because it was late, we did not have time to establish a monitoring and evaluation system.

Second round of meetings to plan the new activities and further monitoring

In 2001, the PARDYP team carried out a second round of meetings. The main results are presented below, followed by some reflections on the whole process.

Damaidi: In Damaidi, the team planned to monitor the tea nursery; check survival rate and discuss how to organize the distribution of plants; monitor the goat ("passing the gift") and pig shed projects; and organize a village meeting to evaluate the water conservation project, plan farmer-to-farmer training in walnut grafting techniques, and

explain the technology for establishing a high value marketable wild vegetable (*cilabao)* nurseries.

The survival rate of the tea plants was about 80%. Most of the plants were already on order, but often by farmers from other villages. To increase the benefit within the area, the woman implementing this activity decided to give priority to local farmers when selling the plants. An important factor in this project was water supply. Most plants can only be transplanted after 1 year, and water supply must be ensured until then. The team discussed this issue with the authorities in Lijiasi, who agreed to continue providing extra water at preferential rates.

The number of goats in the "passing the gift project" was now 16, and the farmer managing the activity was still very happy. The only issue he raised was that this new species was more susceptible to disease. The revised monitoring and evaluation indicators were: good-looking, smooth fur, fat and strong; high market value; and more people prefer to raise this new variety. The team did not discuss the possibility of "passing the gift" earlier, as Zhao Mingshou thought it was better to adhere to the original contract.

In the pig shed project, the frequency of disease was much lower and the litter size had doubled.

Indicators selected by the local farmers for evaluating the water conservation system were more time available for other work, increased yield, and improvement of the local environment, as the water would stay in the tanks instead of causing erosion. To prepare for the village meeting, the team discussed how to assess these indicators. To measure the difference in available time before and after using the water tanks, they thought of using an H-form or frame, which provides a scale along the middle bar with space for recording reasons along the uprights (Guy and Inglis 1999). Although maize had not yet been harvested, the team could compare the yield of wheat for 2000 and 2001, before and after the water tanks had been built. To evaluate overall perception of the project, they thought of using a drawing of three faces (happy, neutral, sad) (see chapter 4 for an example of the use of this tool). The final step would be to discuss the possibility of building bamboo tanks as a follow-up.

For the farmer-to-farmer training, the team wanted to discuss when the training should take place, identify the local experts or trainers, the kind of technical support required (if any), and the participants (women-men balance). To introduce the technology for establishing *cilabao* nurseries, we planned to ask villagers if they would be interested in learning about it, present the projects carried out in Lijiasi and Yangjia, and explain how to establish such nurseries.

The meeting took place at the school, in the evening. More than 30 people attended. The team explained their purpose for being there, then went on to the planned agenda.

To evaluate the water conservation project, the team began by discussing the indicators chosen earlier by the local farmers. Most thought that "Improvement of the local environment" should be removed from the list, but no other indicators were added. However, when invited to use the H-form, the farmers seemed reluctant. One finally took the initiative and voiced his opinion on how to measure labour saved. He drew two columns with the number of working days needed to grow maize before building the water tanks on the left side and, on the right, the number of working days needed after building the tanks. He added a third column to show that he had also saved 6 kg of seeds (he had previously needed 18 kg for his field, but this year he had to buy only 12 kg). Then all the farmers who had built water tanks on their land also reported how many working days they needed before and after. For most, the number days decreased by at least half (e.g., from 10 to 4 days, from 30 to 15, 20 to 10). This year, they had only used the water in the tanks on maize as there was not enough for the wheat crop as well. As the maize had not been harvested, we were unable to measure the yield.

During this process, the amount of seed saved was added as a new indicator. Before building the tanks, villagers had to plant the seed directly into the soil and many plants would die or grow at a different paces and heights. Now, with better access to water, they could first plant the seed in small bags, then transplant them to the fields. This resulted in a more uniform crop, increased the survival rate, and decreased the amount of seed purchased.

Regarding the possibility of building bamboo tanks, farmers said they preferred the cement ones, as they are dug into the ground, are stronger, last longer than the bamboo ones (which frequently leak), and cost about the same amount. Bamboo tanks are no cheaper, because they require the knowledge of craftsmen and bamboo is not available to everyone in the village.

Altogether, the farmers were very impressed with the program. Those who had participated wanted to build more tanks and were interested in building a large pond. Those who had not taken part in the program all wanted to build small tanks in their fields. Whether the program motivated them enough to carry on building tanks on their own, without external funding would have to be evaluated in the future.

Regarding farmer-to-farmer training in grafting of fruit trees, almost everyone in the village now knew how to do this. The farmers said they had learned the techniques from each other and, thus, did not see a need for further training. If they encountered a serious technical problem, they would simply ask a local expert.

The farmers agreed that this type of meeting was useful. The discussions increased their enthusiasm and made them think carefully about their various activities. They thought the time and place were appropriate and would like to have more meetings in the future. The project team learned that because PM&E involves the participation of many households, it might be a good idea to establish a group of local people who could be trained in the use of appropriate techniques and tools. The team could then avoid using tools that were

too abstract, especially when applied to large groups. With a local group, we could discuss development of the project and the approach to adopt during visits to the village.

In Lijiasi: In Lijiasi, the team planned to monitor the *cilabao* nursery and the peach tree project. We also wanted to prepare a detailed management plan for the peach tree project and identify indicators for monitoring and evaluation. We wanted to discuss the project implementation process to date, find out whether any problems had emerged, and ask the farmers to think about the various steps in the project and what kinds of external help and technical knowledge they required at each step.

The village meeting took place in the afternoon, next door to the administrative office. About 20 people attended and issues were discussed according to the agenda. Yang Lixin facilitated the meeting with support from the village administrator. Issues raised by the villagers included:

- There was insufficient water for irrigation during the first phase of the project.
- In some fields, leaves turned yellow because not enough fertilizer was applied.
- A manual was needed to show how to recognize the various fruit tree varieties, with details on their yield, quality, and management requirement.

Farmers in Lijiasi and Yangjia established the same management plan: in December, pruning (training requested), in February and March, flower thinning (training requested), and in June, fertilizing. They agreed on four monitoring and evaluation success indicators during the implementation phase: 100% survival rate, enough fertilizer applied, field managed on time according to the steps identified in the plan, trees grow well. For the final phase, they defined the following success indicators: increase in cash income, at least 1000 RMB income per mu, a yield of at least 10 kg per tree or an income of 20 RMB per tree, project extension by selling branches to other households with price based on the lowest yield.

In Yangjia: Here, the team hoped to monitor the walnut and *cilabao* nurseries as well as the peach tree project; refine plans for the peach tree project and establish a monitoring and evaluation system; and discuss the soybean project.

In the walnut nursery, 500 trees would have to be grafted before the end of the year and not enough tools were available. In the *cilabao* nurseries in both Lijiasi and Yangjia, the survival rates were low. However, at the local extension station, where a trial was being carried out, the survival rate was even lower. Further research and experimentation on the techniques for establishing these nurseries seems to be required.

The wasteland management project was successful. The farmer in charge had already sold half the year's plants for a total of 300 RMB. He and his family harvested a considerable amount of honey for their own consumption and to sell, generating 500 RMB in income. The income raised from selling rabbits was 700 RMB; the family kept 30 for their own use. They also sold one pig for 988 RMB. On the other hand, the fish pond was a failure, as the water temperature was too low. The chickens had been badly

managed, and most had died during the rains or were eaten by dogs or rats. In the following year, the farmer was planning to start planting tangerines and mulberries.

The purpose and agenda for the village meeting were the same as in Lijiasi. The meeting took place at the village leader's house, and about 15 people attended. Zhao Mingshou of the Baoshan Forestry Department took an active role in facilitation. The following issues were raised:

- Some trees had been stolen by outsiders, and the villagers were unable to find the guilty parties. They had decided to use local peach tree varieties to fill the gaps and graft branches from the new variety onto them next year.
- Some trees had developed "black spot disease" because of the high humidity and unstable weather.
- Some leaves had been eaten by pests.

The monitoring and evaluation success indicators selected for the implementation phase included: good community management, a survival rate of 100%, and no stealing of trees. For the final phase, the success indicators selected were: a survival rate of 70–90%, a cash income of 50 RMB per tree, good market value, and development of a good market strategy (e.g., picking the fruits together with leaves to get a higher price).

The team also discussed the soybean extension project, which, unfortunately, had had to be postponed.

Xizhuang: In Xizhuang, the wasteland management and rehabilitation projects were monitored.

V – Lessons learnt and future prospects

The initiation of a process

The introduction of PM&E together with Participatory Technology Development (PTD) into the project cycle is still at a very early stage, making it difficult to draw well-defined conclusions. Instead, we are looking at what succeeded and what went wrong, and discussing the skills we still need to acquire as well as the management changes we might have to make to strengthen the process. What is certain is that the PARDYP field staff now realize the usefulness of integrating a monitoring and evaluation system into project management to improve quality. The introduction of PM&E into the PTD process has also forced us to reflect on the mistakes we have made in previous projects. For example, when discussing the site rehabilitation project in Xizhuang, one team member mentioned that project staff should spend more time explaining the aims of the project to farmers and discussing issues with them. As a result, management of the site has changed from a research activity undertaken by outsiders on communal land to on-farm experiments on private land. The activities are based on the needs and desires of the farmers, who are now much more willing to take part in planning and management.

We learned that we should try to plan and allow more time for participatory activities before the (PTD) projects are implemented. In each project, a basis for long-term participation should be established. We also learned that PM&E helps spread the risk of failure between the project team and farmers. In too many previous cases, the project bore all the risk and, therefore, farmers did not care enough about managing the activities well. At the beginning, the farmers and project team should establish a protocol to determine indicators of success, identify who will benefit and how if the project is successful, and establish penalties for project failure caused by bad management.

The introduction of PM&E was accompanied by improvement in the management of projects, and in the quality of our reports and the information gathered in the field. Although we see the advantages of PM&E, we are still unsure how to adequately integrate it into long-term research activities; it might be more suited for small-grant community development projects. As we have described in this chapter, several of the PARDYP staff have now experimented with PM&E methods, but more time and effort are needed to make them a natural part of our research efforts.

The institutionalization of PM&E

For PM&E to be efficient, it must be institutionalized at each level of project management and all stakeholders must understand its benefits. The PARDYP team had attempted to introduce itself and the project goals during the January 2000 participatory planning meetings; however, only a few people attended those meetings. Thus, the PM&E concepts were first introduced during the February feedback meetings and discussions. Although these meetings were successful in raising people's interest in our project and motivating them to take part in it, they also highlighted the fact that much more time and effort has to be directed at gaining the trust of local people and building common vision of overall goals. A few meetings are not sufficient.

The February meetings showed that better understanding could be the real motivating force for future participation. We also learned that institutionalizing participatory project management at the village level would take time. It will require empowering local people and changing the process of top-down decision-making to a multistakeholder-based, horizontal one. This, in turn, will require the institutionalization of participatory methods among our local government partners. Many initiatives have already been undertaken in that direction within the Baoshan government, e.g., with staff from the hydrology bureau. PARDYP's first year (1996) was also dedicated to identifying who would be our local partners and to building collaborative relations with them. However, more effort is required at the administrative and village levels. PM&E should build upon existing community institutions and integrated into the local governance structure and political process. By the end of 2000, all the village committees of the watershed had been democratically elected by local villagers according to the "National Village Organic Law", which promotes democratic election, democratic decision-making, democratic management and democratic monitoring of village activities and financial expenditure.

But first PM&E must be institutionalized within our own project management. For this to happen, we need to improve communication among PARDYP staff, especially between community development and research staff; we need to learn from each other, share lessons learned from mistakes, and give each other advice. We also need to install a participatory system for monitoring and evaluating our own PM&E process. For example, one of the initial goals for our PM&E was "to enhance the self-development capacity of local participants." However, so far PM&E has been mainly a tool of our own staff. We should discuss how it can be used to empower local people. This would have helped us avoid the conflict that recently emerged over the budget for the water conservation program. If we had shown people how to design their own projects from the beginning, they could have modified the budget themselves or prepared a new, detailed one. Now it is too late, as they have already implemented the activity.

Finally, the work done so far leads us to think that PM&E mechanisms should also be introduced into our other research activities. PARDYP has been studying the soil erosion and hydrology cycle of the Xizhuang watershed for more than 4 years now, and we have never established indicators for deciding when the information collected is "good

enough" to use to plan concrete action. PM&E could thus increase the accountability of researchers to the local communities. In Yangjia, at one of our February meetings, a local group mentioned that they did not know what benefits the hydrology studies could bring them. It is time to clear the air (*water*) on this question.

Future steps

- Publish a book to share our experiences and lessons;
- Each of the team members should make their own PME work plan, practice and share
- Development new PME tools
- Train farmers in participatory skills
- Organize training of trainers workshops
- Share PME tools and experiences with other trainee in other projects, through internet
- Organize joint training programs, such as government officials taking part in visiting and exchanging with southeast countries and various organizations, then report to schools, research institutes and communities
- Jointly conduct 2-4 PM&E activities and summarize their experiences

VI - Conclusion

We are still at an early stage of introducing PM&E into our operating principles. Much has been learnt and more remains to be done. Institutionalizing PM&E into the work of any organization requires a long-term process of learning by doing, adapting and adopting step-by-step changes. It is a process that should not be rushed nor imposed on anybody, but rather, should take root in people's thinking to eventually become an automatism.

VII – Financial Report

1. For First installment: 42,790 Yuan/5.25

1st workshop

Train-transportation Kunming/Guiyang 510 persons	4,500
Per diem en route 510 persons 5 100 CNY /day 52 days	2,000
Ground transportation Kunming/Guiyang	400

2nd workshop

Ground transportation Kunming 520 persons	1,200
Lodgings 5 18 persons	10,000
Food 518 persons	4,000
Snacks and coffee	600
Meeting rooms	1,800
Pin boards rental and paper supplies	400
Administration @ 10%	2,490
Sub-Total (yuan)	**27,390**
Balance:	**15,400**

3rd Workshop

- Total cost for participants:
  - 2090yuan/head(including air tickets, hotels, and food)x21=37620yuan
- Transportation in Kunming City: 600 yuan
- Transportation in Baoshan City: 400 yuan
- Overweight for pin boards, printer and projector by air: 1000 yuan x 2 = 2000 yuan
- Communication (telephone, fax etc.): 1000 yuan
- Meeting room and facilities rents: 800 yuan x 2 days = 1600 yuan
- Photocopy: 2000 yuan (including the expense of Landu Hotel in Baoshan)
- Snacks and coffee during tea break: 1500 yuan

Sub-Total: 46720yuan

Balance: 46720-15400=31320 Yuan=3820USD (exchange rate: 1USD=8.2Yuan)

Publication (estimated)

Publication (English version):
ISBN: 1200USD
Press: 2500USD
Editing and layout 1000USD
Total: 4700USD
Balance: -8520USD

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March 8, 2002

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