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## **International Learning Workshop**

### **Farmer Field School (FFS): Emerging Issues and Challenges**

**21-25 October 2002, Yogyakarta, Indonesia**

#### **Forest Management Learning Group (FMLG) Process**

#### **Building Forest Users' Capacity to Develop Silvicultural Practices to Address Local Needs**

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# Building forest users' capacity to develop silvicultural practices

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## Abstract

It is estimated that more than 25% of the world's forests are managed by rural communities. While these systems have yet to be formally recognized in most countries, local forest managers are gaining more confidence as their forests mature and regenerate.

Current forest management planning systems rarely allow for the range of goods and services that local users seek to manage the forest for, remain highly cumbersome and geared primarily for large-scale reforestation schemes. In order to maximize the benefits from local forest management activities, there is a need to develop appropriate forest management practices which support, rather than hinder, local forest management efforts, protect biodiversity and other cultural values.

The paper presents the process followed by institutions and community-based resource management projects in Asia to develop an innovative approach, based on relevant elements of the Farmer Field School experience, and tested in Nepal and Vietnam to the development of participatory silvicultural practices within community-based forest resource management regimes.

It elaborates on the Forest Management Learning Group approach developed by the Regional Community Forestry Training Center and its partners to build forest users' capacity for developing community forestry silvicultural systems and ensure management plans are based upon local needs and priorities.

Foresters can also no longer be seen as just expert technicians and capacity building efforts will need to support and encourage the shifting role of the forester from a "manager" to a "facilitator". Existing forest knowledge will need to be complemented with a whole new set of skills which focus on mobilizing community knowledge and practice, opening up channels of communication and building mutual understanding between users in participatory decision making processes.

The paper explains the need for good facilitation in any participatory research and outlines the roles of the facilitator and forest users in the Forest Management Learning Group approach. A number of field experiences are provided to the reader to ground the methodology in real-life situations. A discussion session focussing on the main potentials and challenges of the Forest Management Learning Group approach concludes the presentation.

## Introduction

Community Forestry<sup>1</sup> is most accurately and usefully understood as an umbrella term denoting a wide range of activities which link rural people with forests, trees, and the products and benefits to be derived from them. Community forestry may therefore be considered as one dimension of forestry, agriculture, rural energy and other components of rural development rather than as a separate discipline.

The sustainable management of forest resources plays an important role in sustainable land use, poverty reduction, and food security. Opportunities to participate in decentralized resource management, a willingness to respect and incorporate traditional knowledge into resource management plans, ensuring communities' access to technological innovations and/or opportunities for them to develop forest management practices and technologies based on their own felt needs are important factors that contribute to communities' sustainable livelihoods.

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<sup>1</sup> FAO, 1987

Community forestry programs are based on a recognition of the dependence of local people on their resources and of their interest in managing them. Moreover, shifts in national economic structure associated with economic development tend to promote greater decentralization of forest (and other resources) management thus creating conditions which allow local communities and the private sector to increase their influence in forest management decision-making<sup>2</sup>. In response, governments are shifting towards more participatory forest management strategies, and this has implications for how forestry extension programs and research are planned and implemented.

During the past 15 years attention has been paid to the social and institutional aspects of the community forestry development process and it is believed that more effective community forestry may very much depend on appropriate silvicultural systems and practices designed to improve forest productivity to meet local needs.

Silviculture is defined essentially as the manipulation of forest vegetation to enhance the productivity of one or more forest products. Silvicultural systems are developed through consideration of ecological relationships and refined through repeated experimentation, monitoring, and readjustments.

In general, little progress has been made in developing new silvicultural technologies and practices to enable the natural forest to better meet villagers' many needs for different forest products, food security, and services. Limited research has, however, been carried out to develop simple, ready available and cost effective silvicultural techniques to assist forest users in managing their forests. Villagers themselves are now asking for assistance in developing more productive forests, but foresters have had difficulties in supplying the technical information they need (Donovan 1998).

The Forest Management Learning Group (FMLG) is being developed by the Regional Community Forestry Training Center<sup>3</sup> (RECOFTC) to respond to forest users' identified need and interest to learn more about forest management practices. The FMLG process has been developed and tested in close collaboration with a number of community/social forestry projects in Vietnam and Nepal<sup>4</sup>.

Participatory research in forestry will be essential to achieving the sustainable food productivity increases upon which the short- and long-term food security of a growing world population will depend, and clear management agreements and an effective local institution to manage commonly owned forest resources are seen as prerequisites.

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<sup>2</sup> C.T.S. Nair, FAO UNASILVA, No. 204, Vol. 52

<sup>3</sup> The Regional Community Forestry Training Center for Asia and the Pacific (RECOFTC) is a leading international training institution in Southeast Asia. Its mission is to closely collaborate with partners to actively support community forestry. As a learning organization, RECOFTC design and facilitates learning process that supports the development of capacity of actors in community forestry. The Center is based in Bangkok, Thailand.

<sup>4</sup> Collaborating projects in Vietnam: Social Forestry Development Project (SFDP) Son Da; Social Forestry Support Program (SFSP); Mountain Rural Development Program (MRDP); Sustainable Management of Resources in the Lower Mekong Basin Project (MRC).

Collaborating projects in Nepal: Nepal-Swiss Community Forestry Project; Nepal-Australia Community Resource Management Project, FAO-Leasehold Forestry and Forage Development Project; Women Acting Together for Change (NGO); and the Federation of Community Forestry Users Groups (FECOFUN).

## Why has the development of new silvicultural practices progressed slowly?

### History

The roots of many of the present problems in community forestry in Asia lie in the history of forestry development. Most silvicultural system and practices in use in Asia today were developed in the early part of this century, if not before, and focus on the production of exportable timber (Brun 1912, Van Goor 1982, Dawkins and Philips 1998). During the colonial period timber was an important strategic commodity as wooden ships formed the backbone of both military and commercial power.

Apart from timber, a variety of new products discovered in the tropics were examined for their commercial potential. Local trade items, such as cloves, sandalwood, nutmeg, doeswood, and many medicinal plants became important commercial products and the source of much competition between the different European companies. Botanical collection and research focused on those species yielding crops with high export value rather than plants important in domestic commerce or highly valued by local people.

After World War II, most colonies were able to secure their independence. In the forestry sector, technical and financial aid essentially focussed on two aspects: the establishment of a forest based industry as part of an industrial development strategy and the organization of forest management to serve the raw material needs of the new industries (Donovan 1998).

During the past forty years governments have focussed their development and research efforts on the populated, rich and fertile lowland areas greatly limiting the development of suitable silvicultural practices in upland and mountain areas. Little support was provided to forestry research. Local communities and the wealth of local knowledge in forest management were seen as irrelevant to national production priorities.

### Needs and perceptions

Silvicultural practices, to address farmers' needs within community based resource management, have not been satisfactorily addressed by foresters, scientist and community forestry practitioners.

Professionals from forest departments and training institutes have tended to reflect the values of the national forest bureaucracy and its preferred administrative methods of command and control. Attention was (and is) mostly paid to forest protection, timber production to supply industry, and to high value and exportable forest products to generate income for government expenditure.

Forester training is mainly based on conventional forestry practices. Foresters are still thinking in the conventional mode and attempting to adapt/refine forestry practices that were developed for timber and other specific products, but inventory methods and various practices to "manage" multi-use, multi-purpose systems have not been included in educational curricula. Few efforts have gone into developing appropriate silvicultural systems to meet community needs and thus foresters have not been given a range of tools and skills to work with villagers. As no more "new" lowland is available for development the focus has shifted to rainfed areas, including hill and mountain systems, whose productivity can be increased, thus enabling them to provide better income and food security to the increasing number of people depending on them.

However, this has not always led to support for the development of ethnic minorities and hill tribes as the dominant social groups which make up the government bureaucracy in many countries in the region still have entrenched cultural prejudices against various ethnic minorities, many of whom live in forested areas.

Researchers and academics have been disappointed with how little has been documented in terms of research on working with farmers and communities. Both RRA and PRA have progressed greatly in the last 20 years with a range of tools and techniques developed to work with farmers. However, while tools and techniques have been developed to assist researchers learn, there has been very little documentation on what they have learnt and on how these research topics have supported or assisted

farmers and communities to better manage their forest areas. The prevailing research paradigm is still predicated on the belief that the researcher has knowledge and that the farmers or communities are there to receive it.

Many researchers also feel that extension and research methods for community forestry are quite new and hard to work with in light of the fact that in most Asian countries most active forms of forest management are illegal. In this respect it is much easier to conduct research on agricultural land where rights and ownership are well defined. Thus researchers and projects are focussing on forest protection activities and on activities that wean communities off forest use, rather than on actual forest management. This is particularly evident in Southeast Asia.

Community forest practitioners and communities have tended to feel that it was more important to first assure local communities' access and control over forest resources (Victor 1998). There is a consensus that the degradation of forest resources is most likely to happen where there is no effective forest governance regime and therefore no regulations controlling how and by whom the resources will be used and managed (such as: who is allowed to harvest forest products, how conflicts are to be resolved, who is obliged to contribute).

The potential for self-governance by major forest users has been under-exploited for a variety of reasons, and, in Asia, its potential has only been seriously considered during the last decade or so by a number of pilot projects in Cambodia, Vietnam, Lao, Thailand, SW China, and Indonesia. These projects, in addition to the national initiatives in Nepal, India and the Philippines, have demonstrated that the approaches to be pursued to promote sustainable forest management agreements are based on clearly defined boundaries in terms of group membership and resources, congruence between distribution of returns and costs of maintenance, collective choice arrangements, monitoring, conflict resolution mechanisms, and nested enterprises (Veer 2001<sup>5</sup>).

So far, communities undertaking the process of "negotiation" within and amongst communities and with the government need to be able to show that they can protect the forest area, rather than manage it.

Moreover, the technologies brought to community forestry programs have been more suited to the needs of industry, mainly based on prescriptions for plantations of local or exotic species, and natural forest management. Local level forestry officers and wealthy and influential villagers may greatly influence how the forest resources are used and who will benefit. Very often preference is given to a single product such as timber.

### **Lack of a participatory research methodology**

To date foresters and researchers have not fully recognized the true role of forest users as *de facto* foresters, and have failed to make the users full partners in forest management and development exploring and exploiting the existing wealth of knowledge and experience in forest-based communities. Farmers' indigenous technical knowledge has often been marginalized in community forestry.

Forest officials often reject the idea that the local people have the ability or knowledge to undertake technical or administrative forest management activities to improve, or even sustain, forest productivity (Banerjee 1999).

Different approaches to silvicultural system development are used and they depend very much on researchers' backgrounds and priorities. Some focus on forest ecology, others on people's livelihoods. Some base their research on mono-products and then combine many mono-products to make up the whole system, while others adopt a "binary" approach such as artificial vs. natural regeneration, natural forest vs. forests on farms. Few focus on multi-product, multi-layer, multi-purpose forest management systems. Some action research has also been conducted and tends to involve local communities the most. However, whether farmers have valuable knowledge which can play an important role in forest management or have a paramount need to be guided is still endlessly debated.

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<sup>5</sup> Cor Veer RECOFTC, 2001, Personal communication

## **Why participatory development of silvicultural practices?**

It is increasingly being recognized that farmers' knowledge is sophisticated, systematic, and comparable with scientific counterpart (Warner 1991). Despite repeated calls for greater use of such knowledge, cultural beliefs and values in developing innovative systems of resource management, the forestry profession has been slow to adopt these methods (Shepherd 1992; Barrance 1995).

Increasingly, local people are reaffirming not only their interest but also their rights to be involved in developing new technologies through direct experimentation. Indeed farmers are speaking out to preserve, and where necessary rehabilitate, the native forest rather than establish plantation of exotic species.

Conventional forest management practices are not always useful or practical within the community forestry context. Conventional "scientific" forest management has tended to emphasize the management of trees populations for the production of timber (often mono-culture plantations) or other industrial tree products such as pulp, oils and resins. In community forestry communities' objectives tend to involve a wider range of products and values, and management practices should reflect these.

Several governments and forest departments more open to communities' active involvement in the management of community based resource management, such as those that have promoted Joint Forest Management, Community Forestry, Joint Management of Protected Areas, Collaborative Forest Management, have started to elaborate a number of approaches to develop new silvicultural techniques, based on local users needs and values.

Considering the great variety of "local forest environments" that today exist, the different users' perceptions of forest resources uses and values, the distances and isolation that often characterize such socio-cultural environments, the capacity of local communities to address their forest production needs, a search for innovative silvicultural practices and solutions to address such needs should be given a high priority in Asia.

The need for such approaches was identified through a range of discussions with community forestry practitioners. In July 1998, RECOFTC organized an International Seminar on "Cultivating Forests: Alternative Forest Management Practices and Techniques for Community Forestry" to explore the scope and set of practices required for successful community forestry management.

The seminar highlighted the fact that foresters have to yet to develop new approaches, techniques or operations appropriate for how communities seek to manage and utilize the products and services which emanate from their forests. Conventional forest planning and management systems have not changed from their original timber-oriented focus. In addition, the training foresters receive still concentrates on prescription-oriented solutions primarily for wood and other valuable forest products.

The Forest Management Learning Group (FMLG) process is an exciting step in this direction. The FMLG process aims to improve community forestry silvicultural systems and ensure management plans are based upon local needs and priorities.

## **An innovative approach to promote active forest management**

### **What is the FMLG process?**

The Forest Management Learning Group (FMLG) is a learning and capacity building process which uses “non-formal adult education” methods, based on experiential learning techniques and participatory training methods. The learning process aims at building forest users’ capacity for developing community silvicultural practices and to create an opportunity for shared learning between rangers and communities in order to generate new silvicultural knowledge responsive to local needs. In situations where planning systems allow identified silvicultural practices can be incorporated into the community forest management plan.

The approach<sup>6</sup> gives much less emphasis on “targeting forest users” with preset extension messages, and gives more emphasis on the improvement of users’ capacity to analyze their forest management systems and practices and to develop and test possible solutions that address prioritized forest production needs.

Implementing the process will require a shift in forestry planning and extension strategies and facilitation skills. Over the long-term some of the benefits include:

- Identifying, generating and testing locally appropriate forest management practices to ensure local users needs are being met.
- Improving the capacities, knowledge and confidence of users to more actively manage local forest area to satisfy local needs.
- Strengthening the capacities, knowledge, analytical skills and confidence of facilitators in working with local forest users.
- Improving the relations between users and forest department staff.
- Gradually improving existing management plans to ensure that they are addressing the changing needs of local people.
- Generating locally developed information and create opportunities for networking and the spread of locally appropriate information.

### **The roles of different actors in the FMLG process**

The process is based on interaction between users and facilitators. The emphasis is on involving users and facilitators in a learning process which focuses on local needs and builds upon the users’ knowledge and experiences. To do this forest rangers and field facilitators should operate as co-learners in facilitating users to meet their needs from the forest. This does not diminish the value of the foresters’ or other disciplines’ technical experience, but has substantial implications for its use in a participatory process.

### **The role of the forest users**

In this paper ‘users’ are local people who depend upon the forest for their livelihoods and are members of a user or forest management group. The Learning Group is composed by forest users who have an interest or need to actively use the forest. The “community forestry management group” refers to the formal (or informal) body responsible for local forest management.

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<sup>6</sup> The FMLG process is based on the successful experience of the Farmer Field School (FFS) approach developed by the FAO Integrated Pest Management Program in rice production in the region. The FFS approach on rice cultivation showed that farmers can become experts at ecosystem analysis and make informed decisions about necessary intervention from both an ecological and an economic point of view.

## **The role of the facilitator and facilitation**

Facilitation can be best described as the conscious process of assisting a group to function as a group – in order to successfully achieve its defined task. It is a critical element of the FMLG process as it has been developed to deal with groups of users dealing with a range of diverse forest management issues.

The FMLG process is facilitated by a field officer or group leader trained in adult learning and/or group decision-making principles.

The evidence for learning is change - changes in behavior, knowledge, understanding, skills, interests, values, awareness, or attitudes. Therefore, the facilitator's job in the FMLG is to encourage learning rather than deliver information, offer explanations or provide answers. Facilitators initiate discussion and encourage users to participate. They highlight some comments and summarize others; they compare and connect remarks and point out opposing views. Facilitators guide the process, but not the outcome.

## **The role of scientists and other technical resource persons**

It is recognized that a facilitator may not have all the technical knowledge and skills required to cover the full range of forest management issues which may arise in a group. In such cases the facilitator should identify and mobilize the appropriate resources (such as forestry staff, knowledgeable farmers, specialists, and visits to nearby villages) needed to address them eventually.

## **When and how to initiate a learning group**

The FMLG process has been developed in a range of contexts but under specific circumstances. When selecting a community forestry group to work with it is important to keep in mind that they have:

- expressed interest in improving forest management operations,
- the recognized authority (formal or informal) to carry out experiments and forestry operations on the particular patch of forestland,
- developed a management plan and appropriate local forest management institutions responsible have been established and are functioning, and
- an appropriate diagnosis of local livelihoods systems and the interactions between local use and forest conditions has been undertaken.

A Forest Management Learning Group usually consists of 20 to 25 participants selected from and by the members of a community/user group. The process lasts for at least for one to two years depending on the silvicultural practices under experimentation. Planning the meetings you may consider:

**Initial meetings:** The Forest Management Learning Group will meet at least four or five times to undertake the initial assessments before the season when forestry operations begin. During this period, participants have time to get to know each better and form a strong team.

**During the season,** the frequency of meetings may vary from once a month to every three to six-months depending on the experiment. In general there are about five to seven meetings in the first season.

**Scheduling and duration of group meetings:** There are no fixed rules but the facilitator should involve learning group members in setting the time and schedule of meetings (see box 4). It is suggested that group meetings take no more than half a day (three to four hours).

**Venue:** The learning group meets at a convenient meeting place close to the forest area where forest management practices are to be tested.

## Steps in the FMLG process

### Step 1: Starting up a Forest Management Learning Group (FMLG) in your area

**a) Community selection/site selection.** Due to the complexity of factors that influence the management of a community forest some prerequisites need to be taken into consideration when planning a FMLG program in your area. The selection of the community should be made on demand and expressed interest by the community itself. Also, as some forest management practices take at least one year to identify and test, it is very important to ensure full commitment from the group for the full period. The best time to propose to the community that a FMLG should be considered is when a community-based forest management plan has been prepared and implemented, appropriate village institutions responsible have been established, and laws and regulations allow the community to actively manage their forest.

**Objectives:** To identify communities or forest user groups ready and interested to learn more about forest management practices. If you find the FMLG process is not responding to users interest or the prerequisites are not in place you may look for other approaches that serve their needs better.

**b) Selecting the FMLG members.** Once the community has indicated its interest in forest management practices you may need to assist the community to select a smaller group of members (20 to 25 persons) that will form the Forest Management Learning Group and actively participate in the group meetings. The selection of a smaller group is important as many communities have more than 100 members and are too large for everyone to be involved. It should be kept in mind that in a community there are different forest interest groups (stakeholders) with different ideas and needs on how the forest should be used. The FMLG members should represent these different interest groups and genders (all stakeholders in the community).

**Objectives:** To assist the community in selecting a smaller group of members (20 to 25) that will form the Forest Management Learning Group, to clarify the flow of information between the learning group and the whole community and finalize the venue and dates for the meetings.

### Step 2: Getting the group members settled in

Group members will have a lot of questions and concerns when they first meet, and might not even voice these directly. This step is specifically designed to clarify concerns, roles and responsibilities, and develop a set of group norms to guide the learning group. This will foster self-confidence, and promote a free exchange of information.

**Objectives:** To help the group feel welcome, and create an atmosphere of cooperation and sharing.

### Step 3: Identifying forest production needs and selecting the forest area

The forest users' learning is motivated by the need to find solutions to real-life problems. Consequently, users will be interested in learning more about forest management practices only if they address these identified needs. During this step group members will examine how the forest is used and how this relates to their present livelihood systems. Using this information they will then look at the implications for the future in terms of their needs and the forest management practices which will best meet these needs.

**Objectives:** The group will identify the production need(s) they want to address and also identify the forest area where experimental plots will be established and alternative management practices tested.

#### **Step 4: Selecting forest management practices and topics of special interest**

Once the group members have identified the forest production needs they want to address, they will then generate ideas as to the most suitable management practices/silvicultural techniques to best address these. Ideas may be generated by pooling group knowledge or by exchanging information with other communities, users, and specialists. These forest management practices will determine which field experiments the group selects. In addition, the group will identify special forest management topics they would like to learn more about that are not part of the experimentation. Demonstrations of appropriate technologies and skills related to these special topics will also be carried out in their own forest area.

**Objectives:** To undertake a needs based resource assessment, generate ideas on and select alternative silvicultural practices to be tested and to increase the user's self confidence in experimentation.

#### **Step 5: Planning and establishing field experimentation**

During the season the Forest Management Learning Group will conduct field experiments to study alternative forest management practices or technologies. These need to be planned carefully. Since changes may occur at any time during the season in the forest experimental plots, regular observations of selected indicators is necessary

and will allow users to monitor the forest management practices under experimentation. This will enable them to make informed decisions and introduce any corrective measures that might be necessary.

**Objectives:** To strengthen forest users' confidence so they will feel free to experiment, and to assist the group in planning field experiments. This includes identifying what, when and how to observe changes in their field experiments, how data will be recorded and made available to all group participants and shared with the whole community.

#### **Step 6: Conducting regular group meetings during the season**

At this stage of the process forest users will have established a number of season-long experiments, and an overall program will have been prepared. During this season the group will regularly organize two to three half-day meetings. Field experimentation, reflection and analysis by individuals, with the support of group feedback, provide participants with opportunities to acquire new skills.

**Objectives:** The regular meetings provide group members with the opportunity to observe changes taking place in their experimental plots, and to reflect on their field observations for one or more seasons.

#### **Step 7: Sharing lessons learnt, self-evaluation and re-planning**

Experimentation results and lessons learnt by the Forest Management Learning Group are shared with the whole community at different times during the season using different methods. This will allow the Learning Group to build the confidence of the community so possible changes to the existing forest management plan can be made in order to better address their own forest production needs.

At the end of the season the group undertakes a self-evaluation exercise. Participants will be asked to reflect on what they have done and learnt. Learning Group members will have the opportunity to share their perceptions about the approach they used and how it could be improved. Depending on group interests and priorities, a re-planning exercise could then be conducted to either continue with the present experimentation or to explore new issues and looking for answers to new questions.

**Objectives:** To share experiments result and lessons learnt within the Learning Group and with the whole community members, assess its usefulness, and explore new learning opportunities.

## Process development and building training capacities

Through workshops, pilot field activities, reviews, documentation of lessons learnt, and publication of training material, it took about three years to develop the FMLG process.

The forest users' needs and the basic idea for such process was initially conceptualized. The **concept** was then translated into a practical **approach** where the guiding principles were discussed and defined. Through a number of workshops the initial field-based **process** comprising of its objectives, steps and sequence were developed and field-tested in different agro-socio-economic environment in Asia. Field activities generated a number of opportunities for all partners for review, reflect, and share main lessons learnt.

Based on these experiences the facilitator's **field manual** was drafted and choices made in terms of methods and tools to be used in the field. To enable field officers to become facilitators the **training curriculum** and **training material** were also developed. The training aimed at filling the gaps in skills and knowledge between the one needed to implement the FMLG with forest users and the skills available with the field based staff/rangers. Several training courses were carried out to test and refine both the training curriculum and material which eventually provided the needed information to finalize each training session plans, and training methods.

With the development of the FMLG process and the increased interest generated, the need to build national training capacity gradually arose. This implied to **train trainers** in the process and providing them with the needed training skills and material to train field officers in the FMLG process.

This is where we stand today (October 2002). All partners involved in the development of the FMLG approach are continuing with their own experience focussing on their specific situation, needs and resources.

### The facilitator's field manual

The field manual has been designed to provide the basic framework and materials for the implementation of the Forest Management Learning Group (FMLG) process. The manual has been written for:

- Trainers and middle level field managers who will be training field-level facilitators in this process.
- Local facilitators who will be facilitating the implementation of a FMLG process when methods and material presented in this English version will be adapted to local circumstances and translated into the language of the country of use.
- Forest extension programs, institutions and projects working with local management groups who would like to organize a FMLG and need ideas and exercises on how to set up a program.

The field manual is based on the assumption that the user has basic facilitation skills. Exercises have been designed to promote learning and change through a process that begins with an experience followed by critical observations. Based upon the outcomes and ensuing reflection and discussion, learning group members then act upon what they have learned.

### The trainer's manual

Local peoples' capacities, knowledge and experience in managing natural resources are becoming increasingly recognized. To support this, a number of participatory processes, tools and methods have been developed to ensure interventions are based on local people's needs and interests.

Yet, if interventions are to build upon and strengthen local efforts, field officers and the organizations they work for will need to acknowledge the shifting role of the forester from that of a "manager" to a "facilitator". This requires not only an understanding of the particular process or tool, but also calls for new skills that emphasize group learning, forest users experimentation and participatory decision-making.

As the Forest Management Learning Group (FMLG) process was evolved RECOFTC realized that there was a need not only for a field based process, but ways to assist organizations in building the skills and capacities of field based officers (field workers)to effectively use such tools were also needed.

Consequently, RECOFTC and its partners felt it was necessary to develop practical training materials emphasizing the key aspects of facilitation to support group learning processes. This includes challenging field level officers to not only deliver information and technical advice but also encouraging them to learn from, and recognize, the knowledge and capacities of the forest users themselves.

The overall objective of the Trainer 's Manual is to provide the basic framework and material to trainers in order for them to train field level staff to become facilitators in the Forest Management Learning Group process. The overall training objective is to build their confidence and skills in order to be able to facilitate the Forest Management Learning Group process in their own area.

The manual can be the basis for a variety of training activities, depending on what type of training program the trainer is planning to implement, what his/her objectives are, the type of target group it is intended for, and the amount of funds and time available. However a common aspect to all scenarios is that the training is a field-based training including a combination of non-field exercises, field practice, and reflection from the field practice.

## Cases from the field

### Nepal, Makwanpur district

The Hills Leasehold Forestry and Forage Development Groups<sup>7</sup> in Makwanpur initiated their Farmers' Forest Management School (FMLG) process in mid 2000. The group had already successfully established the production of fodder grasses on their forest land. Fodder grasses are used to feed livestock (producing meat and milk from goats and buffaloes) and to produce seeds which are sold at an attractive price in the market. The income of the group has steadily increased over the past 5 years. The two Leasehold groups have seven and five members respectively. Each member has about one hectare of land with a 25 years lease, and an operational plan.

The group clearly identified generating income from fuelwood production (mainly for the market but also for their own consumption) as the need to be addressed. As they each had a 25 years lease and they wanted to maximize their income within that period, their interest was in finding out/learning more about how to increase the forest's fuelwood productivity

The group looked at familiar fuelwood species, within and outside their village, and drew up a list of about 25 species. After inspection they found out that there were seven species available in their own forest. They ranked the seven species according to perceived fuelwood and coppicing capacities (quantity and quality), ending with four potential species to be kept for experimentation.

The FMLG learning group identified the areas where experiments were to be established and finalized five experimental plots plus one as a control. The group did not have previous experience in forest management, and they do not belong to any Forest Users Group. Their knowledge on forest management practices was thus limited.

### Experimental plots

The size of the five experimental plots is 10x10 m. The reason behind the selection of five plots was for the group to be able to experiment with practices under different "local conditions" and according to the availability of species in different locations within their forest area.

Experiments will provide some results after one year but the group and facilitators feel that at least two years or more of observations will be necessary. The objective of the experimentation is to learn which of the four selected firewood species are the fastest growing and can produce the largest amount of fuelwood in the shortest period of time, which species have stronger coppicing capacity, and the appropriate spacing between trees. Silvicultural practices tested in the experimental plots are as follows:

- ✓ Selection of potential locally available fuelwood species;
- ✓ selection of two or three species in each plot according to availability. (Different combinations in each plot). One of the reasons for this is that experimenting with only one species in one plot leaves an excessively large gap between trees that the farmers find undesirable and which is contrary to the operational plan;
- ✓ thinning the natural regeneration with a spacing regime of about 2x3 m. Criteria for thinning is to remove trees of undesired species, as well as those that are diseased, the most bent, or with no top, and to keep the existing spacing regime;
- ✓ promotion of coppicing from the stumps of the trees removed/thinned;
- ✓ removal of new sprouts at 6 months. Only 3 or 4 new sprouts will be kept from each stump. The removed biomass is used for different purposes such as fodder or as animal bedding, according to species.

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<sup>7</sup> The Nepal-FAO Hills Leasehold Forestry and Forage Development Project operates in ten districts, and it aims to raise the income of families below the poverty line, and contribute to improving the ecological condition of the hills. Project objectives are achieved through leasing blocks of degraded forest to poor households for a period of 25 to 50 years, and providing technical assistance to group institutional and technical development.

### Observing changes and record keeping

Farmers regularly observe changes taking place in the experimental plots and the analysis is mainly done by visual appreciation, perception and using local measurements. Record keeping using measurement tape is more difficult and not easily understood by everyone. This is also due to the high illiteracy level of the group. At present measurement and records kept are as follows:

- ✓ Diameter and height of each tree left standing (by hand size and measuring tape);
- ✓ number, size and length (by finger, arm) of new sprouts/coppice at 6 months;
- ✓ amount/weight of biomass produced at 6 months by coppicing (by back-load);
- ✓ fuelwood harvested (by back-load).

### **Nepal, Kavre district**

The Sarda Debi is a Forest User Group<sup>8</sup> in the mid hills of Nepal. Debi means Goddess of Wisdom. The FUG consists mainly of Brahmin-Chhetri and Newar groups, who are so called the upper class people under the existing social structure. Most of the 153 households affiliated to the FUG are farmers. The group manages a total of 42 ha of forest land. They started their FMLG on March 2000 with the selection of the Learning Group members. During the members limited attention was paid to include representatives of the lower class "dalits". The Learning Group decided to look at ways to improve forest fuelwood productivity through different coppicing techniques and species selection.

### Experimental plots

The Learning Group established the plots on 3rd April 2000 and carried out the first measurement during July 2000. A signboard depicting/explaining the experiments has been displayed on the nearby trail. Differences in tree development between plots and amongst species are now clearly visible. The silvicultural practices tested on three plots of 10x25m each are:

- ✓ First plot. Fuelwood and leaf litter production: Clear cutting (average tree size 15 cm) leaving stumps for shoot regeneration. Four species were selected all other were removed. Applying different coppicing techniques.
- ✓ Second plot. Fuelwood, timber, leaf litter, and grass production. Selective cutting. Four species selected. Applying different coppicing techniques.
- ✓ Third plot. Control plot: No practices were applied. Protection only

### Observing changes and record keeping

The group agreed that the first observation would be done three months after having applied the techniques and then every three months after that, through regular group meetings. The indicators selected included: number of shoots for each of the four species; vigorousness of shoots, measured by finger size; stump height and diameter using a bamboo measuring pole; (for each of the four varieties); distance amongst stumps; harvest of fuelwood and grasses after three years.

### Sharing results

The Sarda Debi Forest Management Learning Group continues to meet at their experimental plots at three-month intervals. Records of indicators, main points made by the group and important comments and lessons learnt are kept in the group book.

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<sup>8</sup> In Nepal the Forest Users Group (FUG) is the recognised local institution that manages the community forestry land. The Executive Committee and the General Assembly govern the FUG. A Forest Operational Plan is agreed by the FUG and the Forest Department and modified every five years (if required).

The group members shared what they were doing with the whole community in various ways. They have made a presentation on their activities during a general assembly, and shared information informally with their friends and relatives. Through the process, people also had an opportunity to walk close to the plots when going into the forest and can observe the activities and results there for themselves. *"Anyone is free to attend/join a group meeting"* a woman added.

Learning Group members believe the FUG members are aware of what the group is trying to achieve but do not have detailed knowledge about everything that has been learnt and accomplished so far. The group is planning a guided visit to the experimental plots to share more of their findings with community members.

It is believed by the Learning group that they are now confident about a number of techniques and have identified the most useful species. Full results will be available in three to five years time when the harvest will be made and measured. With this confidence the FUG members are planning to submit a request to the District Forest Office to change their present Forest Management Plan by incorporating the identified techniques into new forest areas.

### **Vietnam, Yen Chau district<sup>9</sup>**

Na Nga is a Thai ethnic minority village in northern Vietnam consisting of 115 households, and a total population of 527 people. The village has a total land area of 575 ha of which 124 ha consists of natural forest, 64 ha consists of plantation, 142 ha consist of uphill land planted with maize, rice and cassava, 7 ha are under one crop of wet rice, and 7 ha consist of ponds and lakes. The main livelihood of the villagers is based on the production of maize, cassava, mangoes, and fish.

Land Use Planning and Land Allocation (LUP-LA) were carried out in 1998 and land right certificates were issued in 1999. So far 112 land right certificates have been granted to households. Community forestry development activities carried out so far include the preparation of Village Level Forest Protection and Development Regulations, and a plan to protect the community forest.

During the FMLG process the Na Nga villagers identified four broad learning interests:

- ✓ Methods to protect the bamboo forest (for poles) ;
- ✓ techniques to produce/ use the bamboo forest;
- ✓ techniques to produce a specialized forest. (Selected tree species for specific utilization purposes and the appropriate management technique);
- ✓ techniques to take care of the forest for timber production.

The group eventually decided to start exploring/experimenting with techniques to address their bamboo pole production and associated protection needs. With the help of an existing 3 dimensional land use model it was easy for farmers to select the forest area that they believe is the most appropriate to experiment with alternative forest management practices for bamboo production.

#### Generation of ideas on bamboo forest management practices

After the observations and dialogue in the forest the group discussed possible improvements. Farmers pointed out that the forest is managed under a cooperative management agreement and it is not managed well. It is too dense. Some group members said, *"We do not cut it the way we should. We do not use the forest according to any management principles, we just cut it"*. Amongst the ideas generated for improved management were:

- ✓ Do not cut the first shoot of the season, it will affect the growth of other shoots and their number and strength will be adversely affected;

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<sup>9</sup> The Yen Chau district in Son La province is one of the districts assisted by the Social Forestry Development Programme in Son Da. This is a technical co-operation programme between the Vietnam Government and the German Technical Co-operation (GTZ).

- ✓ cut the old shoots inside the clump, leaving only one or two to help the new shoot to grow straight;
- ✓ remove any bamboo not growing straight, or diseased;
- ✓ clear well between clumps;
- ✓ cut bamboo branches/pruning up to one and half meters;
- ✓ reduce the number of shoots /poles per clump to 6-7;
- ✓ assign a group to take care of the experiment;
- ✓ locate the plot near the road. It will be easier to protect it from illegal cutting;
- ✓ inform the community of the purpose so they do not enter the plot to cut the bamboo.

The silvicultural practices finalized were: Cut old bamboo poles; cut the bent and diseased poles; cut old at 50 cm from the ground; leave the first new season shoot to develop; prune poles up to 1 m from ground; ban the collection of bamboo shoots from the plot.

#### Experimental plots

It was quite easy for farmers to select where the experimental plots should be established. The area for experimentation will be about 3 Sao = 1,000 m<sup>2</sup> (or 30X30 m) with a total of about 17 clumps. A signboard indicating the techniques experimented with will be placed along the path for all to see. The plot was demarcated using a rope provided by farmers and representing a locally commonly used land measurement unit.

#### Observing changes and record keeping

Six main indicators were selected for regular observations: No. of bamboo shoots; no. of poles; soil moisture (by observation, i.e. by removing leaf litter and then physically inspecting the soil); shape of poles (straight or bent); size of poles (by string measurement); length of poles (by string measurement).

## Discussion

From field experience it appears that forest users are interested to search and learn more about how to:

- ✓ increase productivity of existing broadleaf forests for fuelwood, fodder, and leaf-litter, (this includes also the study and selection of species)
- ✓ convert existing mono-species forest (such as pine forest 20-25 years old) into broadleaf forest for multi-purpose production (fuelwood, fodder, leaf-litter, timber, and to increase groundwater levels)
- ✓ increase income generation through production of Non Timber Forest Products
- ✓ protect and increase water supply for domestic and agricultural use.

The above interests are real-life forest users' needs and the search for silvicultural practices to address such expressed needs will help local forest-based communities to improve their livelihoods and food security.

As far as the experimentation is concerned it seems there are two levels of monitoring and record keeping being carried out. The first is a "users-centered measurement" that is visual, based on users' perceptions, and uses traditional measuring units such as finger size, back-load, and bundle. The second involves observations supported by the "facilitator/ranger", kept by the group or by the ranger. It includes the use of measuring tape, and the data gathered needs to be first compiled and analyzed before it can be presented and discussed by users. As an example some measurements are taken in order to be able to estimate annual volume growth.

## Challenges of FMLG

Within the community-based forest resource management context, the Forest Management Learning Group process, as well as other participatory technology development approaches can provide the expected research results as long as users have secure or are confident on their rights over the use of the forest resources.

Forest departments are often divided between defending national interests and meeting the needs of local people and controlling and policing the access to and use of forest resources are in many case important departmental duties.

Forest departments are often focussing on plantation activities, with limited mandate and resources allocated to new activities aiming at providing services to forest users.

Forester training is mainly based on conventional forestry practices, and foresters are still thinking in the conventional mode and attempting to adapt/refine forestry practices that were developed for timber and other specific products. Thus it is no surprising that inventory methods and other practices to "manage" multi-use, multi-purpose systems have not been included in educational curricula.

Extension and research are not amongst the conventional forester's roles and responsibilities and foresters are often resistant to change. It is to remember that without focusing more on the wider issues such as institutional transformation at government organization level and focusing simultaneously on the sustainability of local institutions such as Forest User Groups themselves rather than the service providers' institutions training field staff in processes such as the FMLG may not always generate the expected impact do.

The FMLG approach can assist researchers to do more practical research, field-based to balance the existing "traditional approach". There is little forestry research in several Asian countries at present, and a balance could be found between farmers and scientist research.

The memberships of the Learning Group are in some cases taken by those who are either in committee positions or in most cases, been selected by the committee. In addition there is a tendency to the exclusion of minority groups with the community. Although, in theory, the issue of exclusion of marginalized groups have been raised in development circle very loudly. There is a chance that they will

not have a say in the choice of extraction of forest products, the price, season of harvesting and the product distribution rules which may affect them very much in terms of their access and control over community resources.

The FMLG process requires a high degree of facilitation skill that is presently above the skills of an average field staff. Therefore building local training capacity and training field level staff will be required

There is a lack of recognition that good facilitation is a crucial element in any participatory approach. Most educational and training interventions still focus on the technical knowledge base of the trainer/teacher and the transmission of that knowledge to the learner.

Many institutions, departments or projects dealing with extension are still technically oriented, and pay little attention to the methodology of developing facilitation skills. Even when this is recognized, it is not easy to educate or train people to become good facilitators. Good curricula are difficult to develop, as a facilitator needs not only a certain attitude, but also a wide variety of skills and on-the-job training; without expert mentoring and good experiences it is very difficult to become an effective facilitator.

### **Potentials of FMLG process**

The refinement of community-based forest resources management depends on the development of simple and cost effective silvicultural techniques. The participatory development of such silvicultural practices will assist forest users to become active managers of their forests' resources according to their perceived needs.

Building local users' capacity to identify forest management objectives and priorities based on their needs, promoting low-cost and readily-available sustainable silvicultural techniques, and strengthening users confidence in their own capacity to experiment is an investment that will generate long term benefits.

The need of production-oriented regime has been realized among professionals and community members, and there is a consensus that the current focus of forest protection has to be converted into the active management of forest.

At the conceptual level the FMLG could be an appropriate approach to transform the forest resources from protection oriented regime to production regime if the concept is internalized among professionals within government, non-government sectors, and users group level. A share understanding on the concept that farmers' and formal knowledge are complementary and both sets of actors need to learn from each other will create ground for joint learning.

The FMLG creates awareness and ownership of the learning process and not only a set of outcomes. Utilization of communities' local resources, knowledge, skills, and values are sought throughout the process. This helps communities to independently initiate new research activities to find answers to new questions.

The FMLG is a learning process and not a demonstration project designed to transfer technologies developed by outsiders. Experimentation results are readily understood by farmers, and dissemination occurs through existing rural networks.

The FMLG is a tested and documented<sup>10</sup> methodology that has the potential to assist forestry service providers to support community development and sustainable forestry resource management. Training material has been developed and lessons learnt documented. Replication of the approach is therefore made possible by equipping foresters with new skills, methods, and attitudes to facilitate the participatory development of silvicultural practices based on local needs.

There are more than thousands of forest user groups/communities that have been established throughout Asia. Many of them are functioning well and willing to adapt active forest management.

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<sup>10</sup> See RECOFTC publications: FMLG Facilitators' Field Manual, 2000; FMLG Trainer's Guide, 2000; FMLG Training & Workshop reports 2000/2001; FFMS Bulletin No. 7, 2000.

There is an increasing number of countries with an enabling policy environment, where community forestry (joint forest management, etc) legislation is in place. Many of these users have their own Operational Plan that could provide legitimate right to carry out harvesting operations and marketing of the forest products on their own. However, the FMLG process should be conducted on an optional base, where pre-requisites are in place, including institutional arrangements supporting local forest management.

Economic benefits can be achieved, getting more products from the forest as results of the learning process.

#### Feedback from farmers involved in FMLG trials

*"If we do new things we might have better results. Why should we stick to the old ways? We should try something different."*

*"We thought you (the ranger) would come and tell us what to cut and how but afterwards we have learnt that we can find out by ourselves by answering your questions."*

*"At the beginning it was a very confusing process but after 3-4 days when we prioritized our own needs it became clearer and we found out that maybe we could meet our own needs through different management practices."*

*"We thought you were going to talk about forest management when you first came but we talked about everything except forest management! After a struggle we have come to an understanding about the benefits of this way of learning".*

*"We thought that managing the forest meant to protect it, to leave it to grow in its natural condition, not to touch, cut or harvest it. After the establishment of the experimental plots we have discovered that we can manage the forest not only by leaving it alone but also by cutting it".*

*"We have many ideas that we would like to try".*

## Conclusions

Forests cover a considerable part of the land in Southeast Asia and it is therefore assumed that sustainable forest use could substantially contribute to food security and sustainable land use in the region.

Most silvicultural systems and practices in use in Asia today were developed in the early part of this century, if not before, and focus on the production of exportable timber, and forester training is mainly based on conventional forestry practices. Many researchers also feel that extension and research methods for community forestry are quite new and hard to work with in light of the fact that in most Asian countries participatory forms of forest management are still illegal or permitted following customary rights but with no legal grounding. In this respect it is much easier to conduct research on agricultural land where rights and ownership are well defined.

The potential for self-governance by major forest users has been under-exploited for a variety of reasons, and its potential has only been seriously addressed during the last decade or so by a number of pilot projects in Cambodia, Vietnam, Lao, Thailand, SW China, and Indonesia. These initiatives indicate that clear forest management agreements between the forest users (villagers) and the *de jure* forest owner (the government usually represented by forest departments), and effective local institutions are prerequisites for silvicultural practices development to meet local needs.

Shifts in national economic structures associated with economic growth tend to promote greater decentralization of forest (and other natural resources) management thus creating conditions which allow local communities and the private sector to become more involved in forest management decision-making. It is important that foresters and forestry organizations foresee changes beyond the immediate future and are prepared to adapt to emerging situations by becoming agents of change.

Participatory research in forestry will be essential to achieving the sustainable food productivity increases upon which the short and long term food security of a growing world population will depend. Participatory research and training efforts should clearly focus on the creation of more environmentally sustainable forestry and equitable and gender sensitive rural livelihood systems.

Establishing sustainable and diverse patterns of forest production should take into account the present and future needs of the people as well as the potential and limitations of natural resources.

Foresters can also no longer be seen as just expert technicians and capacity building efforts will need to support and encourage the shifting role of the forester from a "manager" to a "facilitator". Existing forest knowledge will need to be complemented with a whole new set of skills which focus on mobilizing community knowledge and practice, opening up channels of communication and building mutual understanding between users in participatory decision making processes.

Creating new field based methodologies cannot be done in isolation, especially if those implementing such methodologies have a limited skill base and trainers supporting them have limited resources and materials. The development of practical training materials that emphasized the key aspects of facilitation to support group decision-making is therefore crucial. This includes challenging field level facilitators to not only deliver information and technical advice but also encouraging them to learn from and recognize the knowledge and capacities of the users themselves.

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