



Forestry extension: Community development in Nepal

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[FORESTRY EXTENSION AGENT IN THE PHILIPPINES a bridge between the administration and the community](#)

- Agricultural extension services were originally established to help farmers increase their income and to raise standards of living by improved farming practices. Forestry extension essentially has the same objectives and uses many of the same methods as agriculture. However, forestry extension - and in particular community forestry extension in Nepal - poses two special problems not commonly found in agricultural extension. The first is the long period that must elapse before improved forestry practices produce benefits. Whereas agricultural crop calendars can be measured in a few months, it takes years or decades for trees to reach a productive age.

Second, communal forest custody and management succeed only if there is a consensus among and a concerted effort by entire communities. In agriculture, an extension programme can be successful by convincing and then assisting only a handful of farmers to try new farming practices. In community forestry, such small trials are unreliable. It is not enough for a handful of dedicated villagers to plant tree seedlings in a communal forest if these are going to be trampled the next day by cattle being grazed by other villagers.

Forestry extension workers have to be aware of these problems. One solution is to encourage villagers to plant trees on their own home-lots and unused farmland. As an incentive, tree seedlings are provided free of charge and raised in local nurseries; these are built with labour and materials paid for from government funds and operated by local foremen whose wages are paid by the Government.

Community forestry is the development of awareness, knowledge and responsibility for forestry in communities that will benefit from the presence of nearby forests and trees. Such activities as the management of existing forests as a resource, grass-cutting for stall-feeding from plantation areas and the introduction of efficient wood-fuel stoves will produce quick results and therefore encourage an early and sustained interest in community forestry.

The present article describes strategies and programmes that, as a whole or in part, could apply to many developing countries. Most of these examples are based on experiences gained in the Government of Nepal's three year old Community Forestry Development Project, which is supported by the World Bank, the United Nations Development Programme (UNDP) and FAO.

Legal and institutional framework

Before starting to think about extension and training programmes, it is important to carry out an assessment of the legal and institutional framework of community forestry in a given country. Most governments have a national policy on forestry, with accompanying forestry legislation. Without adequate promotion of community forestry legislation, it is doubtful whether extension programmes can be carried out effectively. In Nepal, the 1978 Panchayat Forest and Panchayat-Protected Forest Rules and Regulations permitted national forest lands to be handed over to the care of rural communities and sought at the same time their active participation in reforestation and forest protection work

The extent of a local population's interest in forestry will greatly vary according to the scope of a particular community forestry programme. While field visits and discussions with villagers on an *ad hoc* basis may be sufficient for the purposes of initial project design, a detailed, random-sample household survey in project areas is highly desirable. Impressions from field visits by government officers are usually based on discussions with village leaders and the more affluent strata of the population. A socio-economic survey carried out by an independent organization specializing in rural survey work would avoid the initial apprehension and suspicion with which rural people often regard forest department staff, who tend to be identified with their policing and control functions.

[A VILLAGE LEADER IN NEPAL promoting forestry at the grass roots \(FIONA MCDUGALL\)](#)

It is not enough for a handful of dedicated villagers to plant tree seedlings in a communal forest if these are going to be trampled the next day by cattle being grazed by other villagers.

Most literature on forestry extension gives considerable attention to the need to convince people to protect forests and plant trees. In Nepal, however, it was found that in 25 percent of the communities visited, a local forest management committee already existed; that more than 90 percent of those interviewed already felt the need for afforestation; and that 85 percent indicated that grazing lands in their community could be made available for afforestation purposes. Yet the same survey also revealed that many people lacked sufficient knowledge of the Government's policies and legislation on community forestry and did not know that seedlings were available free of charge. These survey results largely determined the main components of the extension programme.

The 1982 FAO/Swedish International Development Authority (SIDA) Seminar on Forestry Extension in Semarang, Indonesia, discussed at length the advantages and disadvantages of creating separate "extension wings" in existing forest departments, the inclusion of forestry in rural development, and the role of non-governmental organizations. In many countries, forest departments are among the few agencies with a decentralized field organization which reaches out to the most remote areas. Unfortunately, the fact that their staffs have often had to take on the additional responsibility of police work has led to a belief that there should be a separate extension wing or department for community forestry. It is often forgotten, however, that the lack of personnel and funds precludes the establishment of a new organization with a full complement of posts and separate logistic and administrative support for extension.

Despite some shortcomings the community forestry programme is largely accepted by the Government and the villagers. Training and extension has played an important role in preventing further deterioration of the Himalayan environment.

Extension and training strategy

Once a satisfactory institutional and legal framework has been established and the needed resources allocated, a strategy for staff training and extension has to be devised. A few basic questions have to be answered before pursuing particular training and extension strategies:

- Who needs to be trained at various staff levels?
- What subjects should be studied?
- Who are forestry extension's primary targets?
- What are the main messages to be carried by extension?
- What level of technology is possible or desirable when setting up training and extension programmes?

Staff training is a crucial function, particularly for a new programme like community forestry. The training needs of the different levels of staff vary considerably and should be based on job descriptions, prior training and programme needs.

In Nepal, priority areas for staff training were identified soon after the beginning of the community programme. This was largely done through a process of early participatory evaluation of the field programme by the field staff engaged in implementing the project. Also, in the early stages of the project, meetings were held with professional and sub-professional staff at least twice a year during which various constraints on effective Implementation were identified.

The main target group for training and extension was the rural population, which included forest workers as well as the potential beneficiaries and participants. The very low level of literacy in Nepal (20 percent) was a determining factor in the development of extension and training programmes.

Extension and training may be viewed as the continuing process of transfer of knowledge and information needed to implement a particular programme at a particular time. In general, there are five major groups that should be the targets of this transfer process: (1) government officers in charge of implementing the programme; (2) village-level workers responsible for seedling production and plantation establishment and management; (3) potential beneficiaries at the village level, i.e., rural families; (4) village leaders and district-level officials; and (5) the general public, including women and children, outside the village.

The Nepal programme

Deforestation has been a serious problem in Nepal for many years. Between 1950 and 1975, one-quarter of the total forest area disappeared. If this trend continues, all accessible forests will be gone within the next 15 to 25 years.

Forest products are vital to the survival of Nepal's predominantly rural population. Fuelwood accounts for over 95 percent of wood consumption and will remain Nepal's principal source of energy as long as the supply lasts. Almost every rural family keeps some livestock, and a large percentage of animal fodder comes from forests. As the population increases, demand

for the products grows while the forest base continues to diminish. This is causing a general environmental deterioration in the hills and widespread hardship to the rural population. The Government of the Kingdom of Nepal has long recognized the need to check deforestation. In 1956 it tried to solve the problem by nationalizing all forest areas and controlling tree-cutting. Further legislation annexing all land adjoining forests that has been left fallow for two years was instituted in 1961. This policy proved difficult to enforce and even caused the situation to deteriorate further, because the hill people started to cut forests they had previously protected as their communal property or private property. In 1978, the Government adopted a new forest policy by promulgating the Panchayat and Panchayat-Protected Forest Rules and Regulations. National forest lands were handed over to the care of the rural communities, which were encouraged to participate actively in reforestation and forest protection work. Private planting was not included in this legislation, since separate treatment was required in order to dispel fears that the Government would seize back privately established forests. After two years of pre-project activity beginning in 1978, a full-scale project was started in 1980 with the following objectives:

- to establish 12000 ha of new forest plantations;
- to bring under improved management 40 000 ha of existing forest;
- to distribute one million seedlings to local villages;
- to introduce 15000 improved stoves;
- to create, in general, a greater responsibility for forest management and forest protection among the rural hill population of the country.

FROM THE FLIP-CHART INTO ACTUAL PRACTICE finding clear, appropriate instructional materials (E. PELINCK)

In an attempt to return forest ownership to the people, two new forms of land tenure were subsequently introduced - the panchayat forest and the panchayat-protected forest. "Panchayat forests" are new plantations established on government-owned "wastelands". The local panchayat is an administrative unit of several villages with a total population of 2000-4000 persons. Each panchayat is eligible to receive 125 ha of forest land for the creation of a panchayat forest and is also responsible for the planting and protection of all trees. In return, it obtains all rights to forest products.

The "panchayat-protected forest", by contrast, is an already existing forest that requires upgrading by partial replanting and protection or that needs to be maintained through instituting a viable management system. Each village panchayat is entitled to 500 ha of forest land for the creation of a panchayat-protected forest. In return, the local panchayat can collect fuelwood, fodder and minor forest products for local use. It also receives 75 percent of any revenue derived from the sale of logs or other major forest products.

The Community Forestry and Afforestation Division (CFAD) of the Department of Forests is responsible for the implementation of Nepal's new forest policy and its new rules and regulations. CFAD is a small nucleus of technical specialists in forestry, formed from within the Department of Forests to support its field programme. This new entity has five major units: the Community Forestry Unit does silvicultural and ecological work and gives technical support to field activities; the Afforestation Unit collects and distributes tree seeds and is in charge of plantations in national forests; the Motivation and Education Unit supervises training and extension activities; the Stove Improvement Unit designs and tests more efficient wood-stoves and then introduces them in project areas; and the Monitoring and Evaluation Unit monitors project progress, evaluates project impact and assesses the major socioeconomic

factors in community forestry.

The field activities are carried out by Divisional Forest Officers (DFOs), Community Forestry Assistants (CFAs), Panchayat Forest Foremen (PFFs) and Panchayat Forest Watchers (PFWs), the PFFs and PFWs being employed by the panchayat itself. Community Forestry Assistants are a new cadre of field workers who carry out only community forestry activities, without having "territorial duties" or the power of arrest. The Divisional Forest Officer has been given responsibility for both territorial and community forestry activities.

The Department of Forests is legally obliged to supply the seedlings to the village panchayats free of charge and to pay for their planting. The specific duties of village panchayats include sowing seeds, planting seedlings and protecting the forests from theft and fire.

Training materials

1. Nursery flip-chart, about how to establish nurseries and grow seedlings: 21 pages (70 x 55 cm), black-and-white illustrations.
2. Plantation flip-chart, about how to establish and maintain forest plantations: same format as item 1.
3. Nursery and plantation booklet: items 1 and 2 rep. reduced in booklet form.
4. A colour film-strip on nursery establishment, specifically for central-office and district-level training.
5. A training-programme guide for Panchayat Forest Foremen and Panchayat Forest Watchers.
6. A calendar indicating appropriate times for seed collection and sowing.

Field extension materials

1. Community forestry extension flip-charts: for use by Divisional Forestry Officers and Community Forestry Assistants in explaining the programme to villagers; also used in training CFAs and Panchayat Forestry Foremen and Watchers.
2. Community forestry extension booklet: the extension flip charts in booklet form, used as reference for staff and given to village leaders, schoolteachers and other literate villagers.
3. Posters: a variety of them, to create awareness and deliver brief messages on community forestry; displayed in hill villages and towns.
4. Nursery signboards: mark the location of local nurseries and indicate that free seedlings are available.
5. Film-strips, for central-office and district use: one on women's role in community forestry and another on construction of simple brushwood check-dams.
6. Schools publication: a multi-purpose folding chart aimed at village teachers, to enlist their help in promoting community forestry among children; can later be displayed as a poster on school premises.
7. Radio programme: a weekly 15 minute programme on community forestry, broadcast from Kathmandu, intended primarily to disseminate news of field activities and create a "bandwagon effect" for the community forestry programme.
8. Logo for the project: used on all printed materials.
9. T-shirts: all staff working directly with the programme on a continuing basis are issued with T-shirts bearing the project's logo.

At the village level, Implementation of the programme is undertaken by the village leader, a Forest Committee, Panchayat Forest Foremen and Panchayat Forest Watchers.

Extension With the adoption of the new forest policy in 1978, the need to establish an

extension service within the Ministry of Forest and Soil Conservation became quite clear. The success of the new system of forest land tenure obviously would largely depend on how competently the panchayats managed the forests. The development of proper attitudes through staff training and extension was the key to success.

Before 1980, Nepal's community forestry programme had already been receiving technical assistance from a UNDP/FAO project. Through this project the Government enlisted the help of the UNDP Asia and Pacific Programme for Development Training and Communication Planning (DTCP), based in Bangkok. DTCP is a regional project whose chief goal is to strengthen the capability of Asian governments to improve their rural development programmes at the village level.

Under subcontract arrangements, DTCP was asked to work with the Government and FAO staff in building up the extension capability of the Department of Forests. This team of communication and training specialists advised on methods and materials in the training and extension fields.

DTCP suggested three basic guidelines for building up an extension service:

1. The department's field workers were to be the single most important channel of forestry extension, for they would live among the potential beneficiaries of the programme, providing services as well as disseminating information on forest policy. Because of the high rate of illiteracy among the hill population, field workers would have to rely heavily on interpersonal communication. Mass media, mainly radio and posters, should be used to support person-to-person or person-to-group communication.

The first needs for training and extension were programmes and materials to strengthen the technical knowledge about raising seedlings and establishing plantations and to increase the knowledge and understanding of the new community forestry policy and legislation among the rural population.

2. CFAD's Motivation and Education Unit must develop technical forestry and extension materials for staff at various levels. It must also develop training materials, teaching aids and audio visual communication materials for use by field staff in extension work with villagers.

3. Extension and related subjects should be integrated into the whole forestry staff training system. This applies both to the formal forestry degree or diploma curricula of the university or institute and to any pre-service or in-service training programmes.

[FORESTRY EXTENSION AND CHILDREN children In Nepal and the Sudan are both targets of and participants in forestry extension activities \(A\) \(FIONA MCDOUGALL\)](#)

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Start-up Setting up an extension service to support community forestry in Nepal was sometimes easy and sometimes difficult. The lack of an extension service provided an opportunity to fashion an entirely new and appropriate extension programme.

Since this ambitious community forestry programme was to be implemented immediately, without enough trained staff members, it would have to depend heavily at first on in-service

extension training for existing staff. Considering both the large number of trainees and the extreme remoteness of most of the project areas, it was decided that the Divisional Forestry Officers and the Community Forestry Assistants would be the most important persons to carry out the training and extension functions. The first trainees would then become trainers.

At the national level, the first trainees came from various CFAD units: Community Forestry, Motivation and Education, Afforestation, Stove Improvement, and Monitoring and Evaluation. At the field level, the first trainees were the Divisional Forestry Officers and the Community Forestry Assistants -since they are the front-line government forestry workers specifically hired to do extension work - and the Panchayat Forest Foremen and Watchers.

Agroforestry extension in Honduras

Photo: RESINATION COOPERATIVE IN HONDURAS forestry extension reaches out to rural youth (J. TROENSEGAARD)

Forestry extension in Honduras is reaching out to young people living in rural areas. A number of forestry clubs, designed for youths between the ages of 10 and 16, have been formed, each led by a person experienced in working with young people's groups. The clubs participate in activities designed to teach fire protection, agroforestry techniques and an awareness of the need for forest conservation.

The club programme is supported by a series of school nurseries, which have a capacity of 500 plants each and are established in selected rural schools. Besides demonstrating simple silvicultural techniques, the nurseries are used to raise tree seedlings for ornamental purposes, for family orchards and for reforestation projects.

In addition, primary school-teachers, along with civil and military leaders, are the targets of a series of educational trips and demonstrations designed to illustrate the multiple benefits provided by forests and to teach the value of active silviculture and management.

These activities are only a small part of the "Plan Comayagua", designed by the Honduran Government with technical assistance from FAO. The main thrust of the plan is to plant pine trees on the 300 000 ha of state-owned land on the Sula River watershed. A major dam is being built on the river at El Cajón, and pines are being planted in the watershed to prevent erosion, which could otherwise cause siltation of the reservoir behind the dam.

Fires are regularly used in the region to help clear the land and encourage the growth of spring grass for cattle. However, since they can also destroy young plantations, impede the natural regeneration of pine and degrade soil fertility, keeping fires from getting out of control is a crucial part of the entire effort - an effort aimed largely at young people.

The Honduran Corporation for Forestry Development is at present making plans to expand the scope of forestry extension work within the country.

The following chart illustrates forestry extension activities undertaken so far within the area of Plan Comayagua:

Forest management unit	Size (ha)	No. of extension officers	No. of forestry clubs	No. of school nurseries	No. of educational trips
La Paz	189 700	2	2	5	2
Las Lajas	77 000	1	2	5	2
Rancho Grande	136 400	1	2	5	2
Siguatopeque	202 500	4	7	10	4
Total	605 600	8	13	25	10

Assessment After Identifying who needed to be trained, the next task was to determine more precisely in what they should be trained. Discussions were held with forestry officials and staff at various levels. Job descriptions were reviewed. Visits were made to project panchayats in

the hill areas to talk to field staff and village people.

Two major findings emerged. The first was that the demand for a forestry extension service existed in the hill villages. The hill people, as shown by the survey mentioned earlier, appeared to be generally aware of the deforestation that had taken place and of its consequences. However, some of the less obvious relationships between forests and the environment (such as water supply) and the need for good forest management were not clear to villagers. Meeting the urgent need for a better understanding of the Government's new forest policy clearly had to be an extension priority.

The second finding was that forestry staff at all levels lacked the knowledge, skills and tools needed to run an effective extension service, for which the rural hill population was ripe. Being technically trained foresters, they knew a lot about trees, but very little about working with people. If traditional or standard extension methods were unknown to them, participatory approaches to mobilizing villagers - the cornerstone of any community forestry programme - were completely alien concepts. Therefore, training in extension methods had to form a major part of the in-service training of all the central units.

The Motivation and Education Unit staff additionally needed training in communication planning and development of materials. Since the Divisional Forestry Officers were field managers and would later be directly responsible for training the Panchayat Forest Foremen and Watchers, it was decided to train them not only in extension but also in how to plan and conduct training, and in work-planning and management. The PFFs and PFWs were villagers who had no formal training in forestry, so it was decided to train them in the technical aspects of their work - nursery establishment and management for Foremen, and care and management of forests for Watchers. A general introduction to the main policies and objectives of community forestry was also included in their training from the very beginning. In subsequent years, more attention has been (and will continue to be) given to extension.

Stoves Many programmes involved in the introduction of improved stoves in developing countries seem to suffer from quality control and lack of widespread acceptability. In Nepal various projects have opted for the introduction of ceramic insert stoves which can be made by local potters using traditional methods. The training of the potters is done by a few other potters who received intensive training from consultants of the Intermediate Technology Development Group of the United Kingdom and staff of the Tribhuvan University of Nepal. Quality control can be completed on site before distribution starts. Laboratory testing and people's response both indicate a wood saving of approximately 35 percent.

Improved stoves are expected to be installed in the houses of people who request them. Installers must make sure that all components fit and that the users are properly instructed in maintenance. A one-week training course is given, emphasizing the practical aspects of installation. A stove installation manual is also provided.

The present design of the improved stove has been so successful that little promotion is needed to gain acceptance. Extension and training therefore focus on stove maintenance and cleaning. Stove promoters and installers should, however, be alert to complaints or suggestions from stove users.

Training The Government and FAO project staff, DTCP and the newly created Special Training Wing in the Ministry collaborated to undertake a variety of training activities which ranged from single orientation seminars through study tours to classroom and field training.

Among these was a national meeting held for senior forestry officials. This conference discussed the new forestry policy, implementation of the community forestry programme, targets, activities and the role of field staff, particularly the Divisional Forestry Officers.

Agroforestry extension in Indonesia

Nearly 7000 extension workers, operating through the state forestry corporation Perum Perhutani and various government ministries, are working to implement a five year plan in Indonesia designed to promote forestry activities that increase overall agricultural production. Significant forest damage has occurred in the country in the past because of population pressure and uncontrolled shifting cultivation. The Government's goal, in the words of Apandi Mangoendikoro, Director of Reforestation and Land Rehabilitation in the Directorate General of Forestry, is "to eliminate the destructive practice of shifting cultivation with land reforms and resettlement programmes". Quantitative targets include the annual reforestation of 300 000 ha and "greening", or bee planting, on an additional 700 000 ha per year.

Extension workers, acting under a fully articulated Rural Community Development (RCD) policy, are attempting to teach nomadic farmers more effective long-term cultivation techniques which will combine forestry and agricultural goals. The aim is to increase the farmers' technical and economic know-how while simultaneously increasing their income and overall welfare. The workers operate on the basis of a frame. Work system designed by the Department of Agriculture's Agricultural Education, Training and Extension Agency.

Closely linked to these efforts are two programmes, on Resettlement and on "Nucleus Estates Smallholders". Under the Resettlement Programme, an attempt is being made to shift nomadic people to better locations - those linked with regional economic development activities. The hope is to transform the settlers into permanent farmers who will cultivate farm and forest crops intensively and continuously after being trained in agroforestry techniques. The Government anticipates being able to transform certain of its chosen resettlement areas into permanent, independent villages.

Settlers who become nucleus estates smallholders, on the other hand, are each given 5 ha of land on selected islands off Java where conditions are unfavourable for food crops and which therefore will be planted with such plantation crops as rubber, coconut and oil palm. Farmers must each devote 3 of the 5 ha allocated them to the crop raised by the estate on which they are located. The remaining 2 ha can be used for a home and yard as well as for planting other agricultural or forestry crops of their choice. This effort will also be supported by extension work.

[HOMEWARD BOUND WITH LEAVES FOR FODDER discovering the link between livestock and tree crops \(F. BOTTS\)](#)

Middle- and high-level officials attended an orientation seminar on communication and extension for community forestry. DTCP staff and UNFPA project communication specialists served as resource persons.

Programme staff went on study tours to Fiji, India, Indonesia, Japan, the Philippines, the Republic of Korea and Thailand to observe community and other forms of forestry programmes.

CFAD staff and Divisional Forestry Officers covering the community forestry programme in the hill divisions were trained by DTCP at its facilities in Bangkok. They participated in a three-week communication/extension workshop on how to plan and conduct training and on work planning and management.

The two members of CFAD's Motivation and Education Unit attended a one-month workshop on communication planning organized in Kathmandu by DTCP. They also received on-the-job training by working with DTCP staff in the development of the various communication support and training materials.

Ninety Community Forestry Assistants were trained by the Special Training Wing. They attended a three-week introductory course on silviculture and the specific tasks of a CFA. They also learned how to monitor and evaluate a field programme, and how to use the communication materials.

Selection There are a number of criteria used in selecting the appropriate panchayats to be

included in the programme. Those with an acute problem of fuelwood and fodder supply and - wherever possible - with some capability for community action are favoured. In panchayats likely to be selected, the DFCs and/or CFAs hold discussions not only with the *pradhan pancha* (panchayat headman) but also with the leaders and people in various wards of the panchayat. The need for forest products is discussed, the community forestry programme is explained and questions are answered. The programme should not be forced on or "sold" to the people and their leaders. Rather, the goal is to determine their views and attitudes and then gauge the need for and potential success of the programme in a given panchayat.

The goal is to determine people's views and then gauge the potential success of the programme. The single most effective extension tool is good performance of educational programmes in the field.

As the programme is developed, more and more panchayats will apply for the chance to participate. By 1983, 300 panchayats were involved in the programme, as compared with only 50 during the pre-project phase, which began in 1978. Thus far it has been found that where the nurseries and plantations functioned well, the demand for them by other panchayats surpassed the annual target of five new nurseries per year. It should be stressed that the single most effective extension tool is good programme performance in the field.

Once a panchayat is selected, the Community Forestry Assistant undertakes a campaign to explain the programme to leaders, villagers, schoolteachers and other groups in the panchayat. The CFA underlines the importance of forests to people including the less obvious relationships to water supply and farming; clarifies the legal responsibilities of the Government and the villagers under the programme; and tries to allay fears that the communal forests will be taken away later. The CFA's attitude should be one of sharing new information and explaining the similarity between the aims of the Government and those of the villagers. At the same time, it must be made clear that the people do have responsibilities and that the programme cannot succeed without their concerted efforts.

DFOs and CFAs advise on good sites for nurseries, panchayat forests and panchayat-protected forests, but the final decision is up to the panchayat's leaders and population. Field staff should be wary of vested interests. Villagers should be made to feel that the local nursery is their nursery. Although a Panchayat Forest Foreman is officially responsible for it, the people should be encouraged to visit and to obtain seedlings there. Villagers should also be encouraged to select seeds or otherwise participate in stocking and maintaining the nursery - if possible with voluntary labour - so they can have a real stake in it.

One way to encourage the PFF to seek the villagers' participation is the preparation of a nursery operation plan, which should be prepared by the PFF, the CFA and the chairman of the local forest committee. Like any good extension agent, the PFF should practice good public relations, visit and mix with fellow villagers and give relevant advice when needed. The nursery performs a service function, and people should be convinced that it does this sincerely and efficiently.

Contrary to standard practice in the past, forestry field staff should not prepare management plans for panchayat forests and panchayat-protected forests by themselves. A management plan for a communal forest can be implemented successfully only if the community feels it is its own plan. Therefore, the plan should emerge only after intensive consultation with the people and their leaders. DFOs and CFAs should agree on what, when, where, and how many trees of which species to plant; how planting will be organized; what protection measures to undertake; and when and how forest products are to be exploited. Particular attention must be paid to how the community's present needs for fuelwood and fodder can be met (for instance, there is a pressing need to promote fodder grasses and legumes, as well as stall-feeding of livestock). The management plan therefore becomes a contract between the

Government and the villagers and is signed by the *pradhan pancha*, the chairman of the local forest committee and the DFO.

Outreach With a rapidly expanding programme, it is impossible for senior staff to supervise all work personally or for the DFO to attend all village meetings. As community forestry is a new concept, the junior staff may still lack some confidence and villagers may continue to have some reservations. Annual workshops are held in the District Headquarters, where leaders of participating panchayats and district-level officials can raise any issue related to community forestry and receive an authoritative statement by the DFO or a representative of the central CFAD. Usually a district meeting lasts three days, including a one day field visit to a nursery and plantation. The meeting ends with a set of recommendations on aspects of the project that need more attention. National study tours for village leaders are organized to acquaint them with successful activities of the programme elsewhere in the country and to create interest in new species or new components of the programme, such as the intro-auction of new stoves. Outside the Government Tribhuvan University's Forestry Institute is starting a diploma course in forestry and watershed management. Both the diploma course and the existing certificate course will include extension and relevant social science subjects.

[PAGES FROM A NEPALESE FLIP-CHART Illustrating the hows and whys of forestry \(A\) \(E. PELINCK\)](#)

[PAGES FROM A NEPALESE FLIP-CHART Illustrating the hows and whys of forestry \(B\) \(E. PELINCK\)](#)

A publicly supported programme like community forestry must recognize the importance of creating and maintaining a sociopolitical environment such that the programme can be nationally understood and supported. Radio broadcasts, newspaper articles, tree-planting ceremonies, films, round-table discussions, stickers and posters have helped to create a general awareness of community forestry and to inform the public about the programme's activities and accomplishments.

Also, the Training Wing, which is supported by the United States Agency for International Development, is in close contact with the community forestry programme of the Department of Forests as well as the conservation education and extension programme of the Department of Soil Conservation and Watershed Management, both of which are assisted by UNDP/FAO. DTCP provides assistance to all three programmes and helps in encouraging closer collaboration among them. Most importantly, the Government community forestry programme seems to have become accepted as the informal focal point toward which discussion and consultation on forestry extension in the Ministry tend to gravitate.

Monitoring and evaluation

By September 1983, 350 nurseries had been established in Nepal, 4000 ha of plantations had been completed, 1 million seedlings had been made available for private planting and 2 500 improved stoves had been installed. Such progress is encouraging, but the Government must not rest on its laurels. It must develop a master blueprint for establishing its extension system. Although there is no doubt that its planners are keeping a keen eye on developments in this area, the time is right for a Ministry-wide plan articulating the philosophy, objectives, structure and resources for extension in the entire forestry sector, a plan that can guide the different departments, foreign donors and international aid agencies. Such a plan should define extension responsibilities and functions at ministry, department and field levels. It should also take into account strategies to integrate inadequate forestry conservation and related components in other sectoral programmes, such as those in agriculture and education.

Efforts should also be made to develop a community based system for keeping track of the

programme's progress. The Government needs to keep its own system, but villagers should be encouraged and guided in rearing how to select indicators of progress and impact and how to gather and analyse data. The programme already uses a number of bench-mark surveys as well as periodic reports prepared by field staff.

Although the main responsibility rests with CFAD's Monitoring and Evaluation Unit, various formal and informal methods are employed to obtain feedback and almost all programme staff are able to play a role. The Motivation and Education Unit and the Stove Improvement Unit have a special interest in the progress and impact of training and extension activities. The monitoring and evaluation methods used up to now have been:

- visits by central programme staff to project divisions, with each division visited at least once a year;
- district, regional and national seminars in which central and field programme staff, village leaders and local government officials discuss problems and possible solutions;
- questionnaires administered to DFOs;
- questionnaires administered to CFAs;
- questionnaires administered to expatriate volunteers and associate experts assigned to project divisions;
- a systematic survey of 900 village households and 180 ward leaders in project and control (non-project) panchayats;
- seedling survival surveys in 108 panchayat forests;
- seedling survival surveys of private plantings among 328 seedling recipients (December 1982/January 1983);
- a survey on use of improved stoves among 690 recipients (December 1982/January 1983);
- information regularly obtained through field-reporting forms devised by the Monitoring and Evaluation Unit.

The information gathered through these methods has been valuable in modifying and strengthening the programme's training and extension activities. For example, some CFAs were found not to be using the extension flip-charts as frequently and effectively as expected because of shyness, lack of skill in using them or failure to create situations where they could be used with villagers. The Special Training Wing therefore made practice in the use of the flip charts part of CFA refresher training. An extension manual for CFAs and other forestry field staff is now in production.

The 1982 survey of 900 households indicated that people with at least a minimum level of knowledge about the community forestry programme were twice as numerous in project panchayats as in non-project panchayats. However, even in the older project panchayats, about half of the people did not know that seedlings were available free of charge in the village nurseries. As a result, the programme instituted a communication campaign to publicize free seedlings in project villages.

Surveys also revealed that survival rates of seedlings were a satisfactory 70 percent in panchayat forest plantations and 62 percent on private land, it also found that the causes of

seedling mortality were both technical (poor quality seedlings, poor plantation methods, wrong species selection) and social (damage due to livestock grazing, inadequate care). Therefore, the programme is strengthening the technical training of Community Forestry Assistants and Panchayat Forest Foremen and Watchers on planting methods as well as emphasizing the social aspects of extension work among village people.

Despite these shortcomings -which are likely to occur in any programme attempting to change social behaviour over a short period of time - indications are that community forestry is largely accepted by both Government and people as an important step toward preventing further deterioration of the Himalayan environment. The three-year experience in Nepal indicates that the programmes and material described here have already improved the competence, confidence and morale of the field staff working with the community forestry programme. Training and extension have played an important role in this achievement.

