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SOCIAL FORESTRY NETWORK

FORESTRY EXTENSION: A REVIEW OF THE KEY ISSUES

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(1) Introduction: the need for forestry extension and people's participation

The era of social forestry projects and programmes has brought with it a need for extension services. Traditionally, interactions between foresters and rural populations have been limited to protection, policing, and revenue collection. Thus, the art of encouraging people's participation in forestry activities is new to foresters. Until recently, social forestry projects have focused on fuelwood scarcity issues. As a result, forestry extension efforts have primarily entailed distribution of seedlings, establishment of nurseries and village woodlots, and the introduction of improved wood stoves. These efforts have been directed toward individuals (ie farm forestry) and toward communities (ie community forestry).

Farm forestry efforts have had some success, especially in areas with ready wood markets (primarily poles and pulpwood). The most famous example is in Gujarat, India, where seedlings are distributed free to farmers. The annual distribution of seedlings rose from 6.1 million seedlings in 1971 to 95 million in 1982 and to an estimated 200 million in 1983 (Foley, 1984). Community forestry, in contrast, has had few successes. In some instances, schemes have been actively opposed. In Niger, villagers pulled down trees planted under a World Bank project and allowed their cattle to graze on them (Hoskins in Agarwal, 1986). In Tamil Nadu, India, 5,000 eucalyptus saplings planted by the government were uprooted by villagers (Subramaniam in Agarwal, 1986). In Jumla, Nepal, trees planted along irrigation channels were destroyed within two days of planting (Reaside, 1985). The failures of community forestry projects are due in part to poorly-conceived and-managed extension systems.

Community support or participation is a central concern of all social forestry projects, for without local participation, sustainable resource management cannot be assured. Forestry extension systems provide the means for encouraging or inducing local participation. Increased local participation is thus a key objecive of extension systems (Chambers, 1987, Kramer, 1987, Reij, 1987, Butcher, 1987). Yet participation is a vague concept, which, though figuring in all project plans, is rarely defined. Participation in the narrowest

sense means employment of local people as wage-labour. In the
broadest sense it implies involvement of local people (the entire com-
munity or freely-elected representatives) in project instigation,
planning, implementation, and maintenance. Hoskins (1983) relates
that in one West African fuelwood project, field implementors
interpreted participation to mean the hiring of local men to plant
project trees. The planners, in contrast, had envisaged local
interest in trees, local concern about their maintenance, and local
confidence that benefits would belong to participants. Thus, in the
design of extension systems it is essential to distinguish between who
is to participate, what they are to do, and how they are motivated to
participate.

Lessons drawn from recent social forestry efforts have shown that
their shortcomings are due at least in part to inadequate or
inappropriate extension efforts. While information can be transmitted
in many ways, the perceived value of that information and how it is
used depends on the form of the extension system (its institutional
design) and on the communication process associated with it (NAS,
1983). Thus, how forestry development is done is at least as
important as what is done (Taylor and Soumare, 1984).

(2) The objectives of forestry extension

In the broadest sense, extension is an education process. Extension
systems inform, convince, and link people, they facilitate flows of
information between farmers and other resource users, researchers,
administrators, managers and leaders. The objectives of extension
efforts vary greatly. Objectives of forestry extension programmes are
dictated by the programme's or project's objectives. Establishing
tree nurseries, managing block plantations, promoting agroforestry
techniques, and changing livestock management practices (i.e. stall
versus free range feeding) are all examples of project-specific goals.
Overall objectives of extension systems, however, can be characterised
as: disseminating information, providing technical forestry skills,
encouraging local participation, and meeting a projects' physical

targets. However, these objectives are often ill-defined. Bentley (1982) asserts that poorly-defined goals have contributed to the failures of the Indian and the US forestry extension systems.

Extension agents often serve a dual function of promoter (e.g. demonstrating planting techniques) as well as implementor (e.g. managing block plantations). In many cases, the result has been that information, education, and local participation are viewed as a means of achieving physical targets of a project, rather than as goals in and of themselves. This has meant that the success of social forestry projects is often measured in terms of physical target completion. For example, in Gujarat, India, 14,750 km of roadsides and canal banks had been planted by 1981, 200 million seedlings were distributed in 1982, and 2,000 villages participated in the village woodlot schemes (Karamchandani, 1983).

Physical inputs do not provide a good gauge of participation in a forestry project, since it is not possible to distinguish between those responding only to incentives (e.g. cash) and those responding to a felt need (e.g. fuelwood shortage). Emphasis should be placed on measuring the end-products, for example: the time saved in fuelwood collecting, as opposed to the number of improved stoves introduced; farm productivity and increased income generation versus number of seedlings distributed; and knowledge of resource management and con-servation issues versus numbers employed ("participating") in project work. The focus on inputs (ie seedlings planted) rather than outputs (i.e. added income from fodder sales) means that extension efforts are directed primarily to fulfilling the role of implementation rather than promotion and facilitation.

The emphasis on physical targets is a result of project planners' and funders' need for visible, recordable (from annual one week evaluation missions, for example) and short-term results. In addition, since foresters and forestry services are most familiar with physical tree components, their evaluation systems and means for measuring success are geared to physical targets.

(3) Forestry Extension Approaches

The objectives of an extension programme, as well as the availability
of resources largely dictate the extension approach and methods used.
While there are many approaches and numerous methods of extension, (eg
group discussions, films and field trials) they can broadly be
categorised as "top-down" (dictated from the outside) versus
"bottom-up" (planned and managed by local people).

(3.1) The "top-down" approach

The top-down approach is simply a one-way information delivery system
(from extension agent to rural resource user). It is based on the
assumption that productivity and income of the rural people are low
because they lack improved technology. For example, they lack access
to eucalypts seedlings and thus cannot profit from their fast and
lucrative returns; trees are not raised with crops or in village
woodlots because they lack technology or knowledge of these practices.
Thus, the role of extension is to "spread the word" and teach rural
people what they need to know (Clark, 1982). This system takes the
need for an innovation and its attributes as a given and focuses on
communication. The focus is thus on selling a technical package or
improved practices, changing attitudes and overcoming scepticism.

Facts and ideas are served in packages, bulletins, demonstrations, etc
to recipient clients. In 1972 in Gujarat, India, for example, the
forest service launched a month-long publicity campaign with talks,
radio shows, discussions on planting techniques, pamphlets, posters,
and films shown in schools and public cinemas. The effect was an
increase in seedling distribution from 6.1 million in 1971 to 16.9
million in 1972 (Karamchandani, 1982). This programme benefitted the
richer farmers (with greater land holdings and resources and a better
ability to profit from incentive schemes) and encouraged planting on
individual rather than communal lands. The main tree species planted
were eucalypts and other fast-growing species, grown for distant pulp
and timber markets rather than for local needs.

(3.1.1)   Shortcomings of the top-down approach

While this approach has been successful in some cases, it has serious
drawbacks. The one-way flow of information reinforces the
hierarchichal relationship between the extension agent and the client.
It also fosters and encourages superior attitudes on the part of
extension agents. de Vries (1980) summarises this in examining the
assumptions underlying the traditional top-down extension approach:

- extension agent teaches, farmers are taught

- extension agent knows everything, farmers know
  nothing

- the agent thinks, the farmers are thought about

- the agent is active, the farmers are passive

- the agent confuses authority of knowledge with
  his own professional knowledge

- the agent chooses programme content

- the agent assumes teaching leads to learning.

In contrast, using the dialogue (or bottom-up) approach, both farmers
and agents are active, both are involved in learning, and farmers
participate in the selection of the programme content.

Ratnarajah (1981), while describing the Sri Lankan forestry extension
programme, reflects the superior attitude which has caused problems
for so many community forestry programmes. The underlined phrases
highlight this system's one-way information flow, its assumption of
needs (eg fuelwood), and assumption of the wisdom of its solution
(e.g. leuceana).

> "The public should be made fully aware of the
> facts and made to understand the benefits that
> would accrue to them...growing leuceana in

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> homesteads of this area (Mahaweli) is the only
> answer (to fuelwood shortage)...few people have
> any conception of how long it takes to grow
> trees...for this reason, continuing educational
> programme by the extension service is required so
> that the planted trees are tended, protected
> against fire, disease, and browsing". (p17-18)

'Education' in this sense is merely well-intentioned propaganda in
that its aim is to facilitate leuceana production. Education should,
however, provide people with the ability to obtain and use information
(and technologies) to their best advantage.

(3.1.2) The attitudes fostered by the top-down approach

The superior attitudes generated and dependencies created have a
negative impact on engendering sustainable local participation. In
addition, appropriate research topics and priorities are often assumed
by bureaucracies with little input of local needs and constraints.
The failings of social forestry projects in the Sahel region over the
last two decades are largely due to inappropriate projects or exten-
sion systems. In upland Philippines, Aguilar (in Agarwal, 1986) found
that the top-down approach was the main constraint to the success of
the four study projects. There was minimal involvement of people in
project formulation and implementation. The result was that (1) the
choice of species was wrong - they wanted fruit trees, not leuceana,
(2) the project lacked credibility in their eyes, (3) they resented
being excluded from decision-making, and (4) their basic subsistence
needs were not met.

The attitudes of project planners and extension agents towards their
rural clientele are of central importance. In Tanzania, Skutsch
(1983) found that the positive attitude of forestry extension officers
had a positive effect on tree planting activities. An independent
study of the Maharashtra Social Forestry Project (CENDIT) concluded
that the extension system's failure to reach the poor was due to the
mentality and orientation of the Forestry Department, from which most
social forestry staff were recruited. The mid-term evaluation
(Anonymous, 1985) of this project found that the attitudes of forestry
extension officers towards rural people had greatly improved. At the

beginning of the project, most foresters believed farmers incapable of
planting and caring for trees. After three years, many recognised
villagers as shrewd managers who understood the technology of tree
management. Nonetheless, the language used by some (again, in
Maharashtra), such as "indoctrinate", and "we tell people what to do"
reflects the pervasive attitude of the top-down approach.

(3.2) The "bottom-up" extension approach

In contrast to conventional extension (top-down), the bottom-up
approach is characterised by:

- participation of local users in early stages of
  planning and development

- extension agent role is as facilitator rather
  than teacher.

- a two way information flow

Using this approach, projects begin by examining the needs of rural
people and the constraints placed on them by their physical and social
environments. The development of an agroforestry system, for example,
would be based on farmers' knowledge of their own micro-environments
as well as the expert's knowledge of genetic engineering, soil
conditions, and successful techniques used elsewhere. The function of
the extension system is therefore to facilitate a two-way flow of
information from farmers to researchers or administrators and
vice-versa. If the extension system functions properly, it will help
farmers and resource users to tailor solutions in light of what they
know about the limiting factors of their environment.

(3.2.1) Planning flexibility: incorporating local users into the planning process

In Burkina Faso, an Oxfam supported agroforestry project provides a
good example of a flexible project based on farmers' needs and
constraints (Reij, 1987). The project began in 1979 by encouraging

farmers to grow trees in micro-catchments (a water harvesting tech-
nique designed to increase water availability to seedlings and
increase survival). Farmers found they could not adequately protect
trees from overgrazing; in addition, they were more interested in the
effects of microcatchments on crop production.

The focus of the project evolved to developing and studying simple
"water harvesting" techniques for fields. Over several years of
trials and of farmers' experiences, they found the construction of
rock bunds to be the most effective and popular method. These bunds
are short rows of rocks placed along contour lines. They act to slow
runoff and allow more rainfall to percolate into the soil. Previous
rock bund construction depended on government agents with transits to
determine levels for contour lines. To overcome this constraint, the
project devised a simple and cheap device (based on the garden hose)
for levelling. By 1986 2,500 ha had been treated, resulting in 40 to
180 percent increases in crop yields. The construction of earth bunds
had been promoted earlier in this area by the Rural Development Fund,
but they proved unsuccessful and unpopular because they were easily
damaged by runoff and required considerable regular maintenance. The
Oxfam project was successful largely because it was flexible (it
adapted from tree-planting to field soil conservation), was developed
with farmers accounting for their needs and location-specific
constraints, was developed from pre-existing traditional practices,
and produced visible results.

The bottom-up approach incorporates the final users in the planning as
process. In Meiji, Japan, for example traditional farming methods
were the starting point for agricultural research and extension
(Johnson in Agarwal, 1986). The promotion of close ties between
peasants and R & D was also founded on the idea that traditional
farming practices embody a store of knowledge and skills which should
be used and developed. The advantages of incorporating end-users and
target groups into project planning or technology development process
are that they:

> (1) build on and preserve indigenous skills and
> knowledge, rather than causing their extinction;

(2) give people a greater control over, and
involvement in, the process of change in their
lives;

(3) give people a better understanding of the
technology or management practices;

(4) ensure that the innovation or progrmme is
appropriate and meets people's needs.

(3.2.2) Dialogue approach facilitating a two-way information flow

There are several interesting extension methods designed to generate
two-way flows of information. A two-way model used in India and the
US is based on problem identification. The role of extension in this
case is to facilitate discussions within a group and between clientele
and sources of needed information, and to focus on problem iden-
tification and problem ownership (identify who has control of the
variables leading to problem solution and who receives the net bene-
fits from solutions). The group and one-to-one problem identification
exercise increases the probability that the right problem is being
addressed by both extension and research, and defines the clients'
interests in problem solution which in turn gives the client a vested
interest in helping to find a solution and then putting it into prac-
tice (Bentley, 1982). Bentley (1982) found that investment in par-
ticipatory process led to rapid and widespread implementation of new
ideas and technologies.

Gaun Sallah, village dialogue, is a method used for local planning in
Nepal(Messerschmidt, 1983). It provides another example of a bottom-
up approach where participants are involved early in the planning pro-
cess and a two-way information flow is established. The methodology
essentially includes: structured discussions and study tours, involve-
ment of participants early in the project (at the data collection
stage, where they are involved in constructing a village profile); and
creation of a planning team made up of local leaders and outside plan-
ners. The purpose of Gaun Sallah is to prepare panchayat-level

resource management plans. Its goals are to encourage the commitment
of village organisations and groups in the implementation and long
range management of project field activities, and to promote institu-
tional development.

The essential difference between the bottom-up and top-down approach
is that the needs and social and environmental constraints of a rural
population are not assumed by planners from the outside, and thus
extension serves to educate planners and facilitate local
participation in planning and management.

(4) Extension methods

Forestry extension efforts are implemented in many different ways,
depending on the approach, objectives and resource limitations of the
system. Broadly, they can be classified as:

(4.1) — Mass media are generally used to broadcast information and to
publicise issues. It might include radio broadcasts, distribution of
pamphlets, books, posters, etc. Though this medium may have little
impact on sustainable participation (or an understanding of the issues
involved), it can influence people (and thus encourage some
participation), in that it provides them with access to information
and services (eg government nursery programmes) which would otherwise
have been unavailable. In 1981, in Tanzania, a publicity campaign was
launched, based on the slogan "Forests are Wealth". It succeeded in
generating an interest in forestry department activities, over 800
letters were received from villagers by the Forest Department
enquiring about tree growing, and seedling distribution increased
(FAO 1985). The greatest advantage of this method is that it reaches a
large audience.

4.2 — Group media include many innovative methods of extension such
as plays, films, puppet shows, mime, as well as more traditional
demonstrations (eg planting techniques). Kenya Fuelwood Development
Programme (Skutsch, 1986) has developed an interesting drama programme
based on extension experiences in Mexico and India. Using locally
known comedians, and popular language, the play presents a parody of

local situations (eg fuelwood use and shortages), but leaves the solutions open, in order to encourage discussion rather than to preach answers. These methods have proved popular and effective. They are best suited to introducing or convincing people of the relevance of a particular subject. They can raise location-specific issues and thus are more relevant.

4.3 -- Group discussions include meetings held at village levels (eg Panchayat), with small functional or pre-existing groups (women's organisation), and with farmers (eg training and visit system). The Gaun Sallah system discussed earlier provides a good example of the potential of group meetings: it encourages participation and cooperation; local needs and problems are identified, and local resources (knowledge, labour, etc) are integrated with outside resources. This method is of central importance to community-oriented projects. However, the success of group discussions depends on the use of well-trained facilitators who are aware of local power structures and group dynamics. Group discussions can be dominated by one powerful interest group at the expense of the majority. The needs of the 'silent majority' can be subsumed by the 'needs' of the vocal and powerful minority.

(4.4) -- Individual meetings between extension agents and local resource users is the most direct way of understanding the problems and needs of individuals, and is also effecive at influencing indivi-dual resource management practices. It is also the most effective way of demonstrating new or modified techniques. This method is, however, costly. FAO, (1986a) estimates one extension agent can work effec-tively with 38 household a year (assuming 8 visits a year). Often, extension agents skip visits because of time constraints and the hassles (e.g. transport) involved with them.

(4.5) -- Training and field trips: many extension programmes (eg Nepal Community Forestry Development Programme) include field trips to other "successful" or demonstration areas. Where these trips are designed to convince village leaders about adopting new woodlots, for example, the effectiveness of such trips as extension tools may not be great

(FAO, 1986a). However, where the visit is part of a training programme, it may be of great use for individuals to talk to others who have successfully adopted new practices.

Generally, a combination of methods are used. In Nepal, the Community Forestry Development Programme combines mass media (weekly radio programmes, posters, stickers, signboards), group media (films, school presentations), group meeting and discussions (at the district, village, and committee levels), and individual contact with villagers (Pelinck, 1984).

(5) Factors affecting choice of extension method

The choice of extension method is dependent on the human and financial resources of a programme or project as well as its goals. Decisions about the use of different extension methods should be made during the early planning stages, as human, institutional, and financial resources will largely dictate the extension method possible. These resources vary from region to region, and thus methodologies are area specific. What is appropriate to India might be impossible to replicate in Kenya. Manpower (i.e. trained foresters and exten- sionists) and support systems (i.e. institutions and transportation) are greater in India than Kenya, thereby facilitating a more widespread intensive extension system. Extension methods should build upon pre-existing local decision-making and educational institutions. Thus, the approach may be replicable (eg Oxfam's 'bottom-up' approach), but the specific extension methods used should be tailored to specific local institutions.

The costs in terms of human as well as financial resources are highest for more intensive (individual) contact systems; generally they are the most effective systems for working with individual farmers. However, fostering cooperative group action is best promoted by working with small groups rather than individuals or entire communities.

The effectiveness of many of these extension techniques could be greatly improved by identifying and addressing specific problems and

by directing efforts to the correct audience. Hoskins found that a
number of village woodlot projects in West Africa had failed even
though they were planned with local villagers (men). The trees died,
she explains, because the women who are the traditional tree managers
were not involved by the extension programme (Hoskins in Agarwal,
1986).

The extension methods used may inadvertantly exclude certain
population groups (as was the case with women in West Africa). The
poor and landless people are often excluded from media campaigns and
extension efforts because they do not have access to radios, printed
material (if illiterate), and village group meetings. In a review of
community forestry in Maharashtra, India, Sen (1986) found that in one
project village none of the landless people knew about the objectives
of the social forestry programme while the majority of the medium
(83%) and large (67%) land-owning farmers and 25% of the small farmers
knew about the objectives of the communal woodlot in their village.
Another study in Maharashtra (CENDIT) found that poor (or those
belonging to socially inferior groups) were being excluded from
extension efforts because the meetings were generally held at homes of
wealthier village members who could afford to "host" (eg provide food
and drink) them. Finally, while formal promotion techniques of
extension services provide varying degrees of success, the best
extension methods are successful projects and "word of mouth".

(6) Why the top-down approach still prevails

For many years, people have criticised the top-down hierarchical
approach of forestry and other extension systems. Nonetheless it is
still the most common form of extension. Have these critiques simply
fallen on deaf ears? There are certainly historic and cultural
factors which encourage the use of the top-down approach. However,
its prevalence is largely due to resource constraints of the existing
extension systems, as well as the nature of programme and project
planning institutions. The most important limiting factors for
forestry extension services are lack of financial and human resources.
"Bottom-up" approaches are more costly in terms of trained extension

staff as well as their support systems (e.g. transport).

In many third-world countries there is a chronic shortage of
foresters. Therefore, the people-intensive demands of extension
systems are rarely met. In Mali, for example, there are 600 foresters
for a total population of 6 million (Taylor, 1984). In 1979, only 80
professionals and 240 forest technicians were working in 8 Sahelian
countries (Schmitzhusen, 1983). These data represent total numbers of
foresters, extension services employ only a fraction of them. Thus,
with several exceptions (notably India and China), extension efforts
are primarily limited by the numbers of trained extension foresters.
In addition to their limited numbers, forest extension agents often
work with poor support (eg transportation, wages, incentives) systems.
In a study in the Kordofan region of the Sudan, Hammer (1982) reports
that 84% of the farmers interviewed said they would listen to advice
from agriculture and forest officials if approached, but due to lack
of physical resources and logistic support, the extension agents had
reached only 8 percent of the farmers. In Tanzania, Skutsch (1983)
found that poor support services for forestry extension agents
negatively affected their ability to visit farmers. One agent had to
manage a nursery at one end of a 100 km 'beat' and work with sixty
villages scattered along small roads all without any form of
transportation. The lack of adequate education and training for
forest department extension agents is one of the major problems to be
overcome before effective extension services can be created. Unless
an extension agent is capable of being a good communicator and
listener, it is unlikely that the real needs of the farmer will be
identified and acted upon.

(6.1) Established hierarchies favour the top-down approach

There are also in-built hierarchies associated with induced develop-
ment (promoted from the outside) which also favour the top-down
approach. Among them:

> - The need of funding and planning agencies to
>   control their financial resources (ie assure
>   positive results to assure future funding).

- Extension agents are generally 'outsiders' (not
  from the local area); thus language and
  communication styles create barriers to a two-way
  information flow.

- The historic role of forest services as "resource
  cops", in addition to superior attitudes
  engendered by professional training.

- The motivations within extension agencies
  generally emphasise inputs (e.g. numbers of
  farmers contacted) rather than outputs (e.g.
  clients' income generated from fuelwood sales).

(6.2) Diversifying the forestry extension effort

The constraints of extension systems can best be addressed through
diversifying the forestry extension effort. Several authors have
noted that forestry extension can be joined with agriculture
extension efforts (Clark, 1983, Pelinck, 1982, FAO, 1986), thereby
building on and benefitting from a large experienced network.
Gregerson (1986) notes, however, that agriculture networks may be
inappropriate when they are based on the training and visit system
which is geared to the diffusion of new technologies. Social forestry
extension is often more concerned with social structures and
interactions within a village and less involved with the regular
introduction of the latest technologies. In addition, many
agriculture extension agents are already over-burdened. Hudson
(1987) reports that in Kenya most soil conservation extension work is
carried out during the dry season, as agents are too busy with other
agricultural issues at other times. The system is geared to simple
and quickly-transmitted practices. As a result, attention is focused
primarily on the mechanical aspects of terracing rather than on the
real message of integrating soil conservation into the farming system.

Ideally, agroforestry extension should be integrated with agricultural
extension. Certainly, where two separate extension systems exist,
they should be coordinated in order to avoid conflicting messages.

However, where time constraints, professional biases, and focus mean
that the tree component is a low priority, other extension solutions
should be adopted.

Local organisations (such as women's clubs, youth clubs, church
groups, etc), NGOs, and schools provide good alternatives to forestry
and agriculture extension systems. They generally have better
contacts with rural people and especially the poor, they include and
encourage their participation in decision-making, and they take a pro-
cess rather than an outcome approach to projects. Anand Niketan Ashram
is an Indian voluntary organisation with a long history of work in
village development. In 1981, they launched a tree growing programme
and within a year 1.25 million trees had been planted along bands and
on waste lands with a survival rate of 90%; tree grower cooperatives
have also been organised and nurseries have been established (FAO,
1985). Also in India, the Ranchi Consortium played an important
intermediary role between local people and the forest department.
They convinced the department to dismiss all pending cases of forestry
violations in the area. NGOs can facilitate discussions and mediate
between rural people and administrations.

Finally, several social forestry programmes in Haiti, Korea, India,
and Nepal have developed systems whereby local people are trained as
'motivators' and extension agents. In Haiti, CARE (an international
NGO) hires animateurs from the local community of farmers to undertake
tree planting extension efforts (FAO, 1986b). In Nepal, local
villagers are trained (2 week course) and hired to manage nurseries
and protect plantations as well as to communicate with and involve
other villagers. A two week training course is hardly sufficient to
cover technical and social issues required by extension "agents".
However, it is a step in the right direction. Ideally, the advantages
of using local people as extension agents is that they are not viewed
as outsiders, they understand the local needs and problems, their
language and style of communication do not create barriers and thus,
they will encourage greater local participation. On the other hand, if
the selected villager comes from a minority (eg economically powerful)
position, he/she might be unable or unwilling to communicate with

other (poorer) residents. Clark (1982) notes that farmers tend to communicate best with farmers who are from similar social and economic backgrounds, and thus, special extension efforts may be needed for each different socio-economic group within a community.

The discussion so far has addressed general forestry extension issues. It is clear that the objectives and approach of an extension system affects and is affected by the planning, implementation and outcome of a social forestry programme. What follows is a discussion of extension efforts as they relate to the specific problems of community-based projects.

(7) Extension for community forestry

Community forestry projects have certainly proved more difficult to implement than farm forestry projects. There are many inherent difficulties with the management of common property resources and yet extension efforts have rarely been geared to address specific constraints of community forestry. While some factors are common to extension efforts for farm and community forestry, others such as social and administrative institutions are more critical constraints for community forestry. The distributon of seedlings and demonstration of planting techniques, common elements of many extension programmes, may provide appropriate incentives for individual farmers and other land owners. However, they are less relevant to village leaders attempting to establish a village forestry committee.

The most important difference between farm and community forestry is that community forestry requires the participation of the entire community. Ideally, participation, here, implies the involvement of people from different sectors of a society in planning, planting, management, maintenance, and distribution of forest products. At minimum, it requires the tacit approval of all groups within a society for the management of an area as a "common" resource.

There are many constraints to local participation in community forestry programmes, among them are:

- participants do not feel a pressing <u>need</u> for a communal woodlot;

- <u>land availability</u> - land may be limited by competing uses for agriculture and grazing. In addition, land tenure as well as the physical site conditions may also limit the available area;

- <u>differing incentives</u> for and <u>perceived limitations</u> of the communal forest area. Participating incentives for landless and land-poor farmers might include increased (or more accessible) forest products (eg fuelwood and fodder). The incentives for richer farmer and village leader participation could be cash-income generation (for themselves or for the community) or political recognition. The landless might be concerned with the accessibility and utility of the products from community forests, whereas leaders will be more concerned with their ability (eg guard salary) to protect the area. Community forestry schemes often do not provide the poor access to forest products. In Maharashtra, for example, village panchayats auction off fodder supplied from the communal area, thus benefitting the richer villagers who can afford to bid for it (CENDIT).

- <u>institutional security over the rights of access to tree products</u> -- many third world countries have had forest laws where all the products were the property of the state. In Nepal, new forestry legislation was introduced in conjunction with the community forestry programme which hands over state forest land to communities who participate in the programme.

- a <u>history</u> of negative <u>legislation</u> and <u>rapport</u>
  with forest services -- often the forest service
  is viewed as exploitative (both of the local
  forests and population). In Pakistan, for
  example, when the community forestry programme
  began, over 50,000 cases of forest offences were
  still pending, which meant that one out of six
  households were involved in disputes with the
  forest service (Cernea in FAO, 1986b).

- <u>inequalities</u> within the local <u>social structure</u> or
  mistrust of local government -- often, local
  governments do not represent the community as a
  whole, but are interested in (or perceived to be
  interested in) furthering their own gains. Thus,
  there is no cooperative foundation for communal
  action. Skutsch (1983) found that mistrust of
  village leadership negatively affected
  participation in Tanzanian village woodlot
  schemes.

- the <u>benefits</u> accruing from forest plantations are
  <u>long term</u> benefits and environmental benefits.

- <u>labour availability</u> -- it is often assumed that
  labour is available in the off-peak agriculture
  season. Reaside (1985) notes that many farmers
  in Jumla, Nepal, depend on off-farm employment to
  tide them through this lean period; thus volun-
  tary labour is hard to find.

(7.1) Resource management and community forestry

These limiting factors all indicate that problems associated with the
<u>management</u> of a common property resource rather than tree planting
technologies or knowledge of forest ecology are the central
constraints to sustainable community forestry developments. Issues
related to management and communal participation have not been ade-
quately addressed by social forestry extension systems.

The attitude of most forestry departments is to plan for rather than
to plan with local communities. As a result, communities are not
included in the decision making processes and thus are not managing
their communal resources. The Maharashtra Social Forestry Project
provides a good example of "top-down" planning (it is by no means aty-
pical of other community forestry projects). Village plantations are
planned and planted by the forest department and then turned over to
the village after five years. Planning involves: the collection of
basic data about sites, selection of species to be planted from a list
specified by the department, information on soil type, and irrigation
facilities, needs of local people.

Determining the needs of local people and encouraging their
participation entails:

> - keeping people informed at various stages of
>   planning;
>
> - extension officers are to visit the villages
>   frequently, establish rapport, explain to them
>   various details of the social forestry project
>   (area to be covered, tree species to be planted,
>   people's roles and responsibilities, and probable
>   benefits from tree plantation);
>
> - the management plan for six years was prepared
>   for each village extension agents, it was then
>   submitted to the forest department for approval;
>
> - land for the plantation was handed over to the
>   panchayats.

While the villages were theoretically to be involved in the
development of the management plan by (attending village meetings), in
practice, this was rarely the case. Sen (1986) reports that in two of
three villages studied people did not even know the plan existed, let
alone participate in its development (this is also the case for
villages examined by CENDIT; Sen, 1986, CENDIT, Anonymous, 1985).

The underlined phrases above indicate that the <u>decisions</u> over planning and management of the village forests are made by the forest service. The CENDIT report echoes this fact, concluding that the village planning process simply entailed the adoption of "mass-produced cyclostyled management plans" by selected panchayats. Decision-making forms the basis of management. Thus, as long as outside agencies are making the decisions <u>for</u> local villages, "village-managed" development will not occur. Kramer (1987), in his review of successful sustainable development projects notes that "many development efforts have failed because they have not allowed the community to...take charge of the management of the productive resources at their disposal". Wangura Maathai (Kengo in Goslinga, 1986) asserts that "development which is imposed from the outside takes away from the people their power to guide their own destinies".

(7.2) Participatory planning: a vital ingredient for community forestry

Participatory planning is necessary for successful community projects. It requires the development of extension methods such as Gaun Sallah (discussed earlier) or other discussion-oriented techniques. Simply "informing" people does not incite participation. People must be actively involved in planning and managing as well as having a stake in the benefits if they are to be encouraged to paticipate. In Nepal, the Community Forestry Development Programme found that widespread public discussions about the panchayat-forest programme did not generate enthusiasm for the programme. However, when the actual provisions of specific management plans spelling out group rules for protection, harvest and benefit sharing were brought under <u>group discussion</u>, the value of establishing community forests was quickly recognised (Arnold, and Campbell, 1985).

As a result of the 'outside' planning and control of resources, the Maharashtra project, on the whole, is not sustainable. The mid-term evaluation noted that many panchayats were reluctant to take over the management of the forests after the five year term. Panchayat leaders were concerned about the responsibility of protection (ie costs) and

felt they did not have the capacity to manage these areas.
Essentially, immediate income-generation was necessary before many
panchayats were willing to take on management responsibilities. As
the establishment and management was done primarily by the Forest
Service, many villagers viewed it as the government's project and felt
it was the government's responsiblity to manage it. In addition, in
some instances, the forest service "extension" agents were reluctant
to turn over these areas. It was, after all, the extension agents
rather than the villagers who had invested their time and effort in
the management of the area. However, this is not an appropriate role
for an extension agent interested in fostering sustainable resource
management. Many panchayats were uncertain how the benefits from the
forest would be distributed. Many indicated that products would be
sold - in other words, forest areas are viewed as commercial ventures.
Several village panchayats viewed woodlot harvest as a one-time com-
mercial venture and plans for sustained management (ie beyond first
rotation) were not being made (Anonymous, 1985).

In Maharashtra (as is the case with many other forestry projects),
discussions about the distribution of 'benefits' (or products) is not
included in the initial project plans. Participation in communal
forest endeavours will not occur if participants are uncertain of the
benefits and how they will or might be distributed. The Maharashtra
evaluation called for the development of prototype benefit-sharing
plans (Anonymous, 1985). This will not enhance the sustainability of
these village forests, as it is another example of outsiders planning
for local people. In village discussions held in Nepal, it was preci-
sely the discussons of benefit sharing and the definition of user
groups which incited interest in the project as a whole (Arnold and
Cambell, 1985).

(7.3) Pitfalls associated with the top-down extension approach to community forestry

The top-down approach used in most community-based projects has meant
that the needs of the people and the community have not been adequately
identified. The focus of community forestry projects has been on the

establishment of village fuelwood plantations and village tree
nurseries. Thus, planners have assumed that the most pressing
community need is energy and thus fuelwood. Having isolated the
(singular) problem, the answer is simple: fast-growing fuelwood
species. It is, therefore, assumed that the major constraints to
establishing a village fuelwood lot are lack of knowledge about
fast-growing tree species and their potential benefits, lack of
understanding of the ecological importance of tree cover, and inabi-
lity to cope with the "free rider" syndrome of common property resour-
ces. Thus, extension efforts focus on incentives to minimise risks of
the new technology (eg free seedlings), education (propaganda) about
basic ecological relationships, and employment of woodlot guards.

(7.4) Communal resources serve multiple purpose, community projects should be geared to similar multiple uses

Collectively, a community (whether unified or simply a loosely-knit
group of settlements) uses common resource areas for a variety of
purposes, including: grazing and fodder collection, mulch and animal
bedding collection, fuelwood, foods (fruits, leaves, mushrooms, wild
animals), medicines, building and equipment supplies, and as a source
of raw materials for local industries. The use of common resources
may be unrestricted or controlled by local custom or government
regulation. Thus, the communal forestry area should be managed for as
many different uses and thus users as possible. By focusing on a
single product (e.g. commercial fuelwood), project planners imme-
diately exclude a range of users and thus participants. User groups
should be identified and organised in the planning stages. A small
area of communal land cannot meet all the needs of a community, but
organising users and facilitating the negotiation of a management plan
will help to ensure multiple uses and users of the area.

(7.5) The traditional management of common property resources: the starting point for project design

Community-based projects, especially those planned from top-down, do
not build on (or even recognise) traditional common resource manage-
ment systems. Arnold and Campbell (1985) note, however, that com-

munities often have (or had) the means of managing common property resources (though perhaps conservatively).

Control systems in traditional forest management have been enacted through several different forms of collective action:

- harvesting only selected trees, or forest products.

- harvesting according to the condition of product, determined by its size or shape, its stage of growth or the season.

- limiting the amount of product removed by time, quantity or payment.

- using social means for protecting the forest area through employment of a watcher or voluntary group action (Arnold and Campell 1985).

An understanding of the causes of the breakdown of traditional communal management systems is needed before any attempts are made to introduce a community-based project. The reasons for their disintegration are numerous including increased population, commercialisation, labour migration, introduced 'outside' legislation (eg turning all forest lands over to government control), and changed social structures and institutions.

(7.6) Community resource problems are "multi-disciplinary"

Community-based problems can rarely be confined to the bounds of professional disciplines (e.g. forestry). Initial obstacles to common property resource management are generally organisational and require skills in social analysis, negotiation, and institution building (e.g. cooperatives). Community-based projects appear to have more success when they address a series of community needs. The NGO, Mahiti, in coastal Gujarat, India combined water conservation and the provision of drinking water with the development of natural plantations of the oil seed tree, Salvadora persica (Shah and Weir, 1987).

NGOs and other local organisations are often successful because they can provide a range of services and are more apt to identify a community's most pressing needs.

(8) The management of existing resources: addressing the constraints of community forestry projects

The technological solution to the perceived fuelwood crisis was village plantation or woodlots of fast growing species. Generally the costs have been high (an estimated $160 million spent in 10 years in the Sahelian region), they have failed to meet local consumption needs (successful community forestry projects in India do not meet basic needs, they occur where people can meet their basic needs through access to Forest Department land (Saxena, 1987)), and often failed to encourage sustainable participation. Focusing on the improved management of existing resources (e.g. natural forest management) would address some of the constraints placed on community forestry projects.

- Land availability might prove less difficult as efforts would be focused on communal areas already being used (thus practically communal if not legally so). In Nepal, legislation was passed in conjunction with the Community Forestry Development Programme which transfers the rights of government forest land to village, panchayats participating in the programme (Pelinck, 1984).

- Benefits accruing from the forest would be immediate as well as long term. There are fewer risks (for the participants) associated with enhancing a pre-existing resource base rather than establishing a novel resource (exotic fast-growing species). In the former, the products are known and their value recognised.

- User groups can be more easily identified and thus the negotiation of the management plan would

be more directly relevant (thus encouraging par-
ticipation) for identified users.

- <u>Distribution mechanisms</u> for forest products are
  more likely to be in force, again facilitating
  the participation of users in the management plan
  negotiating process. For example, in coastal
  Gujarat, villagers have traditional rights to the
  seeds from large tracts of naturally occuring
  <u>Salvadora persica</u>. Mahiti, a local NGO, has
  organised women's collector groups and put them
  in contact with oil-seed processors who pay
  higher prices than local traders (this has
  substantially increased incomes). In addition,
  they have encouraged the afforestation of large
  tracts of saline wasteland with this tree (it was
  found that 'sweet' water was needed for
  regeneration, thus a nursery was established near
  the villagers' water tank) (Shah and Weir,
  1987). As the benefits are more immediate and
  known from these areas, people may be more
  willing to invest their time (labour) in the
  project.

(8.2) Tailoring community forestry efforts to social and political constraints

Extension efforts geared to community forestry need initially to focus
on community and social aspects. Silvicultural systems should be
designed with an understanding of community constraints (eg corrupt
social elite) and needs in mind. The Kenya Wood Fuel Development
Programme provides an interesting example of tailoring forest
management to social constraints (Skutsch, 1986). Women in the
project area are forbidden by local custom to plant trees, and yet
they are the ones who suffer from the fuelwood shortages. Men grow
trees for the pole and timber market, not for fuelwood. An exotic
"shrubby" species was introduced for fuelwood production, which is not
considered a tree, thus women are free to plant it.

In cases where village or local leadership proves to be an inappropriate vehicle (because of the power structure) for community forestry, alternative community-based institutions should be sought or formed (ie women's groups, small industry-based groups (eg oil-seeds, rattan), or cooperatives). NGOs and other local organisations can be instrumental in community-based projects, especially as facilitators for a negatively viewed forest service, as instigators of local institution building, and as a source of information on changing laws, regulations, and rights.

Finally, community-based forestry is expensive in terms of human resources. It requires more "people contact", negotiation, and mediation than farm forestry endeavours. Resources should therefore be directed to fewer communities (10-50 rather than hundreds or thousands), and to communities who already have identified a need for a community-based forestry project. A successful community-based project will readily demonstrate a project's or programme's advantages.

ANNEX

Natural forest management

There are few examples of community forestry projects designed to
enhance pre-existing resources. Generally, projects clear natural
'waste' and establish plantations at great cost, promising high
returns. In many areas, plantations have failed. In Bandia, Senegal,
for example, the costs of establishing a eucalypts plantation was
$800/ha. Its productivity is an average $1.5m^3$/ha/yr. In the same
area, the native 'scrub', <u>Acacia seyal</u> produces an average of
$1-1.5m^3$/ha/yr with no management (range $0.8-3.2m^3$/ha/yr) and of course
with no establishments costs (Taylor, 1984).

In 1980, USAID and the Nigerian Forest Department began an innovative
project designed to manage 5,000 ha of reserve forest (Guesselbodi)
using what it termed "participatory" management (ie involving local
residents) (Heermans, 1987). The project has many components
including research, soil conservation, agroforestry, establishing a
forest cooperative, and grazing management. Two years of preparatory
field work (ie discussions with residents as well as soil and
vegetation mapping) were conducted before a management plan was
adopted. Information was collected on (1) past and present uses of
the forest, (2) changes which have occurred over the past 30 years,
(3) priorities and preferences for its ongoing use, (4) local customs
regarding forest use. The forest was found to be severely degraded
(40-60% of forest cover had been lost during the past 30 years), and
suffered severe soil erosion.

The management plan divides the area into 10 parcels to be managed on
a ten year rotation (based on coppice cycle of <u>Combretum sp</u>, the
dominant species), each parcel will be cyclically protected from
grazing on a three year basis). During the restricted period
residents are permitted to enter restricted areas for forest products
such as gum, food, medicine, and cut hay. A forestry cooperative made
up of nine villages close to the forest was established. The project
hired a "cooperative agent" (from the Cooperative League of the USA)
for a year to help establish the cooperative. Each village elected

five cooperative officers who together make up its operating committee. After 2 years' negotiating, a contract was signed with the government which accords the cooperative the right to exploit the forest as long as it abides by the policies set out in the management plan. The cooperative has the responsibility of firewood cutting and grazing permits. Proceeds pay for the recurrent costs of forest management. The Forest Service directs the ongoing conservation and restoration programme. All wood cut in the forest (at present 70 cutters) is obligatorally sold to the cooperative.

The important features of this project are that local people were involved from the early planning stages, their interests were respected (eg access to forest products during restricted grazing periods), and their participation sought for the management of the forest areas. Thus, local residents have been given the responsibility (ie cooperative) of managing their local forest resource, while still receiving the support (restoration and conservation) of the forest service. As the forest researchers knew little about the ecology of the forest area, they relied heavily on knowledge of local foresters and people. Thus, the initial constraint, lack of knowledge about the ecological processes of the area needed for the management plan, fostered a two-way information flow between researchers, planners, and local forest users.

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