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THE INDIA PAPERS

Aspects of NGO Participation in Social Forestry

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Aspects of NGO Participation in Social Forestry
Bangalore, India, September 1986

Prepared in conjunction with the NGO Steering Committee
of the Bangalore Consultation and the International
Tree Project Clearinghouse, NGLS/New York.

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Editor's Note

This volume contains the papers and proceedings of the NGO Consultation on Social Forestry held at Whitefield, Bangalore, India from 8 to 11 September, 1986.

The papers in the first section of this volume were all commissioned for the consultation and were taken as read. These papers were not individually discussed at the consultation but contained information and views that formed a basis of the discussions.

While editing them, efforts have been made to leave them as they are wherever possible. In a few of the papers, the language had to be edited in order to make them easily understandable to an international audience. Repetitions, either within a paper or in two or more papers, were removed and replaced by cross references. Apart from these, no other significant changes have been made.

The profiles contained in the second section were also commissioned for the consultation and it was hoped that they would provide valuable information on the work and experience of NGOs and institutions. Presumably these would be useful even after the consultation and perhaps of interest to a much wider group of people.

In editing these profiles, some of the NGO profiles have been deleted, either because the same NGO has been profiled in two of the sets of profiles, or because in a few cases, the NGO representatives were very dissatisfied with the profiles of their organisations but did not send suggestions for changes in time for inclusion. It was decided to omit such profiles rather than to publish them in their original form.

Profiling of institutions was done on the basis of a format and there was perhaps inadequate time before the consultation to analyse the information collected. Mainly for the sake of brevity, profiles of those institutions which did not report work or facilities that might be of interest to NGOs working in social forestry have been deleted.

The reports of the three preparatory meetings and of the consultation, in the third section, are reproduced in their original form.

The directory of audio-visuals is also reproduced in its original form but the bibliography has been shortened a little and some repetitions deleted.

Considering the frequent use of various local names, a glossary has been developed to help especially those who might not be very familiar with the Indian languages to which these terms belong.

The background to the consultation, its objectives and the methodology used can be gotten from the introduction to the consultation report (Section III). Also from this and from the introduction to the profile of professional NGOs (Section II), one can get an idea of the concept of social forestry and the current predicaments regarding deforestation.

Though these papers might themselves justify the consultation, the final justification would be the follow-up work that is done and the steps that are taken to actualise the ideas and spirit of the consultation as formulated in the statement of shared concern.

It might, therefore, be of interest to the reader that some follow-up work has started and that two proposals, one to set up an information system and the other to work towards drafting model laws, as per the recommendations of the consultation, have been discussed with the Chairman and other officials of the National Wastelands Development Board. Efforts are on to finalise these and to take up some of the other tasks identified at the consultation.

Shekhar Singh
Indian Institute of
Public Administration
New Delhi, India

30 March, 1987

Note to Readers

The UN's Non-Governmental Liaison Service (New York) is pleased to have assisted in the assembly of these background papers on Indian social forestry. Each paper addresses a particular range of issues critical to the integration of social forestry movements into the fabric of national environmental planning. Although the papers were written for an Indian audience, the information presented is also relevant to other regions of the world. The intention of publishing these documents is to make this bounty of information widely available, both in India and in the rest of the globe.

The papers were prepared for delivery at the Indian NGO Consultation on Social Forestry, the proceedings of which are contained within this volume. The Consultation was a landmark in establishing a common understanding among Indian NGOs of what social forestry means and in providing a starting-point for social forestry groups taking their rightful position within overall forestry strategies. These papers were key components to the success of the Consultation and as such, deserve a detailed reading.

NGLS (NY) would like to thank members of the India-based NGO Advisory Committee for its leadership and patience in regard to these papers and the Consultation. We are pleased that the proceeds resulting from purchases of this publication will be going to the benefit of the Steering Committee. We would also like to thank each of the Indian scholars who wrote and presented these papers for their invaluable contribution to the development of social forestry.

Angus Archer, Coordinator
Non-Governmental Liaison Service/NY
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GLOSSARY

Achar (Tree)	Buchanania lanzan Spreng
Adivasis	Forest dwellers
Amla (tree)	Emblica officinalis Gaerth
Ayurvedic (system)	An Indian system of medicine
Balwadi	Creche
Bann	A local hemp rope
Bargad (tree)	Ficus benghalensis Linn
Bhabbar	A wild grass used for weaving rope
Chulah	Wood stove
Crore	(See note 2 below)
Devnagari	The script used in Hindi language
Gulmohar(tree)	Delonix regia (Brojer) Rejineseque
Harijan	Scheduled caste (formerly "outcast")
Karanj (tree)	Pongamia pinnata (Linn) Pierre
Kathua(tree)	Antidessma diandrum Roth
Kekad (tree)	Garuga Pinnata Roxb
Kissan	Farmer
Lakh	(See note 2 below)
Mahua (tree)	Madhuca indica Gmel
Neem (tree)	Azadirachta indica A. Juss
Nistar	Local rights mainly for fuelwood/fodder
Pukka	Solid/correct
Saab/Sahib	Boss or big officer
Samaj	Society
Su-Babul	Acacia
Taluka	Administrative subdivision
Tasar	A variety of silk
Tendu (tree)	Diospyros melanoxylon Roxb
Thana	Police station
Usar (land)	Saline land

Note 1: Words in the Indian language, when written in English, have varying spellings. For example chulah, chullah and chulla are different ways of spelling the same word.

Note 2: Lakhs and crores refer to numerical units in Indian notation. After the thousands unit (1,000), Indian units increase per order of 100.

A lakh is the first such order of increment. One lakh, written as 1,00,000, is equivalent to 100,000 i.e. 1 lakh (1,00,000) = 100,000.

A crore is the second such order of increment. One crore is written 1,00,00,000 and is equivalent to 10 million (10,000,000) i.e. 1 crore (1,00,00,000) = 10,000,000.

In order to translate the Indian notation to common notation, rearrange the commas keeping the number of digits the same.

FOREST PEOPLE:

VICTIMS OF EVER CHANGING YET UNCHANGING OFFICIAL POLICY

Bharat Dogra

The destructive impact of deforestation on villagers depending on forests for their essential needs is well known and widely recognised. Forests have been destroyed in India on a vast scale in recent decades, but still a very large number of people are engaged in forestry work as an important means of their livelihood. Some of them are engaged in collecting leaves, flowers, seeds, bark, and roots of trees and plants (the so-called minor forest produce or MFP (1)). Some of them are employed in felling trees and carrying them to the nearest transport, some in local cottage industries based on forest produce and others in plantation and related work. In fact, there are a large number of forest villages in the country which were set up specifically for obtaining labour for various forest-works.

It is also widely recognised that these forest people (2) are among the poorest sections of the Indian society. Most of them belong to the scheduled tribes and have also experienced land alienation, indebtedness and other economic problems in recent years, further adding to the need for giving them a fair deal in forestry works. But, as the system of forest exploitation evolved in India, most of the forest labourers were at the mercy of contractors and traders (3). In the collection of MFP they were paid very low rates, and because of their ignorance of cash transactions and market values of various commodities, they were often deprived of their collection in exchange for a little salt or cloth. Tree felling was often done by migrant labourers employed by contractors, who gave low wages for work done in a highly risky manner and hardly any compensation for accidents. As evidence of such exploitation gathered in various parts of the country, the need for eliminating corruption by middlemen and contractors gained wide recognition.

It is unlikely, however, that welfare of labour was the only or even the most important objective behind the changes such as the "nationalisation" of MFP or the creation of Forest Development Corporations (4) that were subsequently introduced. Here we are concerned mainly with how these changes affected the welfare of the forest people.

Minor Forest Produce

While a very large number of people are engaged in the collection of MFP, (more in this activity than in any other forest-related activity) this work itself consists of the gathering of very different types of forest produce. Some types of work such as the collection of tendu leaf, are done on a very large scale over huge forest areas, while some other collections (for example those relating to specific medical plants) may be confined to a few isolated pockets. Under these circumstances, it is only to be expected that "nationalisation" of the trade of MFP has itself been implemented in bits and pieces, confined more to the large scale operations than to all MFP.

What is more important than the scope of nationalisation of trade of MFP, however, is its character. In 1981 the National Committee on the Development

of Backward Areas, in its report on tribal areas (hereinafter referred to as NCDBA-Tribal Areas) summed up the experience of nationalisation of MFP in these words:

> "The trade in some of the Minor Forest Produce was nationalised in some states. The states acquired, through suitable legislations, monopoly rights to purchase the items nationalised. They also fixed the charges for collection of Minor Forest Produce. However, the situation did not improve substantially, even in nationalised commodities. The states started the practice of sale of future collection to the contractors and entered into agreements with them accordingly. Under the law, only the state can purchase nationalised commodities. Though collection, in some cases, is done directly by the department, in most cases it is done through agents formally or informally. The agents appointed by the state are generally men of the final purchaser because it solves the problems of quality of collection, handling, storage, and finances, which would be the responsibility of the department. The agents purchase the produce formally on behalf of the department but the collection is simultaneously deemed to be handed over to the final purchaser. The state in this arrangement becomes entitled to the margin between the final sale price and the collection charges which may be mutually agreed to. In this arrangement, the primary objective of removing the middlemen and passing on the maximum benefit to primary collector is lost. In many cases, there has been a reversal of the policy of nationalisation and the old system of working through the contractors has been resumed."

Later, the same Committee, in its report on "backward hill areas", voiced a similar feeling. The Committee observed:

> "As a general policy, the nation has laid down that the purchase of minor forest produce in the forest areas must be departmentally managed so that the collectors of minor forest produce are given a fair price for their labour. This policy has yet to be developed on a large scale. It is also noticed that some states have a habit of going back on the national policy deliberately."

The Commissioner for Scheduled Castes and Tribes, who studied the implementation of the nationalisation of MFP in Bihar, concluded: "Vested interests had succeeded in scuttling the programme...what was missing in the whole programme was involvement of the local people and lack of political will on the part of the government to withstand the pressures of local contractors and shopkeepers."

In some cases "nationalisation" has had such strange effects on the welfare of tribals as could not have even been imagined by those advocating this step with good intentions. To what extent this is the result of mischievous interpretation and implementation of laws and to what extent that of new laws actually meant for this is a moot point. The following interview provides a good starting point for such a discussion.

Interview with Sunderlal Gond, Village Polapathar, Kesla, M.P. (5)

Q. Sunderlalji, can you tell us whether the nationalisation of the tendu leaf has benefited the Adivasis (tribals) in any way?
A. The loss and gain in short is that the money which we used to get from the

output of the fields before nationalisation, we don't get any more. That is to say, the contractor who used to buy the leaf of our plants used to pay us. Now he does not give us any money.

Q. Why don't you get money now?
A. I don't know what orders have been issued by the government, but we don't get the money. You see, in our own fields we have some trees. Some of these have been planted by us. Earlier, in the Malguzari system we could sell the produce of these trees to anybody and it used to be our income. Now, under the new system, all trees, whether they are on forest land, or on our fields, are under the control of the Forest Department; I may still be the owner of the trees, but I cannot sell its produce. I cannot collect any leaf, branch or fruits. These will be sold by the Forest Department.

Q. Can you collect minor forest produce like Mahua, Achar, firewood, etc., from the forest for your own use and/or sale?
A. Yes, we can still do that, and we have to do it, otherwise we cannot survive. But a lot of new restrictions have been imposed on collection. In the mahua season no Adivasi can collect and sell more than 25 kgs. of mahua at a time. This is creating a lot of difficulty for us. The season is very short. One has to collect as much as one can get. If you do not take it, somebody else will take it. If no one takes it, then it will go to waste. It is our one major source of income. Now the market is far off. It is not possible for us to go to the market everyday to sell only 25 kgs. To go to the market means a whole day is gone. This is hurting us a lot as our income has gone down. Again, they have imposed restrictions on storage of dried mahua in our houses. No family is allowed to store more than two quintals. It is very little for our domestic consumption. It is one of our major sources of food in the rainy season, as well as a source of cash. Now we are being denied this source of survival.

"NCDBA - Tribal Areas" observed (1981) that as a result of some states going back on nationalisation, various systems (of MFP collection) such as the collection by contractors, collection by the state's agents and collection by cooperatives were being followed. The Planning Commission says in the Seventh Plan draft (1985) that some MFP items are sold to contractors in all the states. The same document also quotes its predecessor, the Sixth Plan draft, recommending that the contractor agency should be eliminated in all the states.

That the implementation of the policy has been slow, is however, not our main complaint with the nationalisation of MFP. The main complaint is that, wherever it has been implemented in the existing rural power structure, it has generally dissolved into re-privatisation in one form or other, with the vested interests also entering the new framework. Most significantly, the working and living conditions of the MFP gatherers have not improved in any way. This is not to say that no benefits have accrued to the gatherers in areas of nationalisation. Indeed, so ruthless was their earlier exploitation in several areas that some improvement was bound to be there, but this improvement is generally nowhere near the potential that actually exists. And to some extent, even these benefits have been negated by some adverse effects of nationalisation, as already indicated.

Discussion on tribal welfare through MFP collection has generally been dominated by the question of payment of proper rates for the various produce collected by tribals. But this should not lead to the neglect of the role of the so-called MFP as a staple food and useful medicine in the life of

tribals. Several MFP items are food or medicine for the tribals. However, these are also much sought after by industrialists and traders. Mahua is an obvious example. Clearly it is important not only to provide proper payment to the tribals but also to control the collection in such a way as to ensure availability for local use, especially as food. This problem is most acute in areas where outside (or migrant) labourers are brought in for MFP collection. This practice is objectionable on other grounds as well.

Secondly, as industrial use of some MFP items increases, it is possible that to maximise collection of these items, destructive methods will be employed which will endanger the trees and plants. Pine trees in Western Himalayas have been destroyed on a massive scale in recent decades because of the excessive extraction of resin (6). Methods of sal seed collection pursued in Madhya Pradesh have similarly posed a threat to a tree considered of great importance to tribals. This is another aspect of MFP collection which should receive appropriate attention (7).

Of course, the biggest threat to the livelihood of the people engaged in MFP collection comes from the destruction of forests having trees from which useful MFP items are harvested (either the total destruction of forests, or else their changed composition, in which those species of trees predominate which do not yield (or yield to a lesser extent) the MFP items which villagers have been employed in collecting). Some time back (1981) the NCDBA report on "drought-prone areas and desert area" had warned:

> "Trees yielding many varieties of minor forest produce and trees giving fruits on which the tribal population live and also earn some money by collection are also being devastated; one of the main objectives of the tribal development programme is to ensure these benefits are not lost to the tribals but augmented. So in all these plantations it should be a rule that trees giving minor forest produce like mahua, karanj and neem, and fruit trees like mango, tamarind, and jack fruit, are suitably interspersed. Mainly large scale plantations of eucalyptus should be avoided because they upset the ecological balance of flora and fauna very badly."

But it is well known that eucalyptus has, in fact, dominated the plantation programmes in recent years. In fact, the composition of over one million hectares of forests has been changed during the last decade. The recent Seventh Plan Document (1985) says: "As regards the production forestry programme, emphasis was laid on the conversion of low-value mixed forest areas into high-value mixed plantation of commercially important species like teak and bamboo."

It may be said, of course, that this new type of forests also us yield some MFP. But on the whole this is much less than the traditional mixed forests. The value of the new commercially oriented forests is more in terms of pulp and high-value timber (8).

With the growth of forest based industry, instances of big industry intruding into those forests where thousands of MFP gatherers have been earning their livelihood are likely to become more and more frequent. In his book "Tribes of India - The Struggle of Survival", the well-known anthropologist Christoph von Furer-Haimendorf describes the consequences of one such intrusion for the Chenchu tribe of Nallamalia Hills in Andhra Pradesh:

"The Chenchus represent thus the unusual case of a forest tribe of seminomadic collectors and hunters who, notwithstanding close contact with advanced population and the agents of a regular administration, have remained gatherers even though the bulk of the produce they gather is no longer food for their own consumption.

"Until 1979, forest conservancy and the pursuance of the Chenchus' traditional life-style were not in conflict and, in view of the value of the produce collected for pharmaceutical and other industries, there was every reason to believe that this situation could persist for the foreseeable future. However, in 1980 a development occurred which threatens to undermine the very basis of Chenchu economy. When I revisited the upper Ambrabad Plateau in November 1980, I noticed large-scale inroads into the bamboo forest, and learned that the Sirpur Paper Mills, whose activities had already destroyed the greater part of the bamboo forests of Adilabad District, had been awarded a contract for the exploitation of bamboo on the upper Amrabad Plateau. The agents of the Sirpur Paper Mills had brought in hundreds of forest labourers, many of them recruited in distant Madhya Pradesh, as well as a fleet of trucks. The local forest officers told me that they were not in a position to control the extent and the manner of the exploitation of bamboo, and whereas there is a method of cutting bamboo which safeguards future regeneration, it was obvious that the felling was carried out without any regard for the conservation of the stocks of bamboo.

"For the Chenchus, the destruction of bamboo in their habitat will be catastrophic. They depend on bamboo not only for the construction of their huts and for making many of their utensils, but above all for the manufacture of baskets and mats, which they traditionally sell or barter for agricultural produce. It is no exaggeration to say that the depletion of the stocks of bamboo in the forests of the Amrabad would make the area virtually uninhabitable for its original denizens."(9)

Such contracts, which threaten to undermine the very basis of tribal communities, should not be allowed as they go against the declared government policy of protecting such communities. Industries in question should be asked to meet their requirements in a more dispersed way and from less objectionable sources. In practice these considerations are frequently and callously ignored.

Cottage and Small Industry

Apart from the elimination of contractors and middlemen, to benefit MFP gatherers, another often repeated objective of the government's policy regarding MFP has been to process MFP items at the local level to the extent possible so that more employment can be generated. In other words, MFP items should not go outside the area in their raw form but in a processed or semiprocessed form. In this context "NCDBA - Tribal Area" observed: "The above approach has been accepted at the highest policy level for quite some time. Nevertheless, not much progress has been made so far...the tribal has to be satisfied with what he can get as a gatherer of forest produce."

Looking at this hopeless record, the committee went on to make a more specific recommendation in its report: "It is necessary that the first processing of Minor Forest Produce is organised within the tribal area and

through the cooperative system. The main objective should be to retain maximum benefit from this activity within the local economy which should accrue to the primary collector. A time bound programme of two to three years should be prepared for establishing processing units for Minor Forest Produce in the cooperative sector within the tribal areas."

More than five years have passed since this recommendation was made (1981) without any significant progress having been made. On the other hand, it is clear that for several cottage scale units depending on forestry produce, such as artisans engaged in making baskets and mats, the situation is now becoming worse than before, due to the much larger demand by big industries, and their better access to this resource on account of their strong financial base and other relevant factors.

Several cases have been reported where officials have, in fact, discriminated against the local cottage-scale units, instead of making efforts to help them as per the declared official policy. "In Madhya Pradesh in 1981-82, industrialists paid the forest department 4 paise for a four metre bamboo, while forest dwellers paid a little over Rs. 4 for bamboo supplied by the forest department. Until recently, paper mills in Karnataka were getting bamboo at Rs. 15 per tonne while the villagers had to pay Rs. 1,200 per tonne. In Tamil Nadu the earnings of basket weavers have declined from Rs. 8 per day in early 1979 to Rs. 6 in the early 1980s, because bamboo is increasingly sold to paper mills. What is more, the basket weavers are now subject to sudden periods of unemployment". While giving this information, the State of India's Environment Report, 1984-85 (Centre for Science and Environment) also mentions the plight of burad workers of Bhandara and Chandrapur districts of Maharashtra, engaged in the manufacture of mats and baskets of bamboo. The government first restricted their supply of bamboo, then even more arbitrarily, stopped it completely. When the people protested, the police beat them up and arrested 64 of them. Later, a very limited supply of bamboo was restored to them.

Pricing

As in the matter of providing forest produce to cottage industries, so in the matter of deciding on the rate of payment for MFP items collected by tribals, big industries have been favoured at the expense of poor villagers. The norms for deciding the payment to MFP gatherers have been much debated but generally the practice has been to subsidise industries and give low payments to MFP gatherers. With this attitude of officials, nationalisation by itself cannot benefit the tribals. The firing on tribals at Simdega, Ranchi, had its roots in the anger of tribals over the fact that their earnings from MFP had decreased after nationalisation.

In this context, the observations of "NCDBA - Tribal Areas" are worth noting: "There is no case of fixing a lower collection price on considerations like encouragement to setting up of industries in an area. The economy of industrial units must be worked out with reference to the value added by processing and other services which they can perform. The hidden subsidy by supply of raw materials at lower price to the industrial units is not in the interest of the national economy. This clearly deprives the tribal of due share in the benefits of economic growth in the area."

This report then goes on to list some malpractices this underpayment leads to (apart from depriving the tribals): "It has to be conceded that a lower price will inevitably result in lower overall collection. When the collection prices are low, the traders do not bring into their formal accounts the entire collection. Sometimes they may even pay penalty for shortfalls in collections in case there are conditions stipulating a minimum collection. The benefit which they get by mopping up the large margin in unrecorded transaction is much more than the penalty. This also leads to corrupt practices."

Forest Labour

The "NCDBA - Tribal Areas" report clearly states: "The need for giving a better deal to the forest workers has been recognised and accepted at the highest level now for a pretty long time." Despite this recognition, the actual condition of forest workers at the time when this committee submitted its report (1981) is described in the words of the committee:

> "The forestry operations are not covered in any state by the provisions of minimum wages for agricultural workers. In remote areas the labourer is at the mercy of the forest contractors, his agents or the petty officials of the department. Even when a better wage employment may be available in some area, the local tribal may still be obliged to work on forestry programmes at the lower wages because he has to live in the area and maintain good relations with forestry officials. The relationship of the forest labour and the employment agencies, therefore, is to a large extent exploitative, the advantage of which is taken by the middlemen or it may get reflected in lower working expenses of the forest department.
>
> "The employment of forest labourers is generally through contractors. Even where the working of forests is organised through the forest department itself, the working may be assigned to petty contractors who employ the labourers on piece-wage system. In the areas now brought under intensive forest management schemes, there is comparatively a more sustained demand for labour in limited areas. Although the Forest Corporations, to some extent, have introduced commercial concepts in the working of forests and also in their own organisational structure so far as forest labour is concerned, the earlier arrangements continue."

Little needs to be added to this official review of the plight of forest labourers, except to state that there has been no significant improvement in their working and living conditions since then.

Forest Villages

There are a large number of forest villages which were set up initially to meet the labour needs of various forestry works. In 1972 the conference of state ministers in charge of welfare of backward classes had recommended that all the forest villages should be converted into revenue villages, so that they can receive the benefits of various development schemes and their rights over the land cultivated by them are recognised. "NCDBA - Tribal Areas" stressed the need for establishing a symbiotic relationship between the forest department and the people living in these villages, and pleaded for removal of anomalies for development of forest villages. Yet, this is what the situation in 1985 was, as reviewed in the Seventh Plan Document:

"About 2 lakh tribal families of about 5,000 forest villages do not possess even now any rights to the land they cultivate. They have no access to development programmes. Without these forest villages being declared as revenue villages, the inhabitants cannot be recipients of benefits flowing from development programmes."

It may be stated here that there is a close relationship between the exploitation of forest labourers and the prevailing uncertainty of the life of forest villagers. The latter enforces the former. The obligation to provide labour even on payment of wage, as a condition for residence in the forest villages, has been held ultra vires of the constitution by Kerala High Court. Yet, in practice, forest villagers have a very uncertain existence.

Cooperatives

According to "NCDBA - Tribal Areas", leaving aside the states of Gujarat and Maharashtra: "In other States it appears that no serious effort has been made so far, even though in principle it has been accepted that the entire working of forest should be planned through the cooperatives."

Specifically regarding MFP, this Committee's report observed: "The Large-Sized Multi-Purpose Cooperative Societies (LAMPS) have been set up in the tribal areas at a considerable cost primarily for organising marketing of minor forest produce in the first phase. Already, much time has been lost even after repeated policy decisions at the highest level."

In view of the dismal past experience "NCDBA - Tribal Areas" made a specific time-bound recommendation: "The Ministries of Agriculture and Home Affairs together should ensure that the entire trade in Minor Forest Produce is organised through the cooperatives on monopoly basis, and this new system is introduced with effect from the next working season." As is well known, this is still a distant dream.

Only for Maharashtra and Gujarat can it be said that forestry cooperatives have spread quite extensively. After the emergence of forestry corporations, however, the forestry cooperative movement in Maharashtra received a setback. Gujarat remains as a supposed model for the organisation of forestry cooperatives. One would imagine from the information on membership of forestry cooperatives that forestry work in Gujarat must be carried out in full conformity with the welfare of forest people. After all isn't it in the hands of the people themselves through their cooperatives? However, at a meeting of tribal representatives in Gujarat, summoned by "Lokayan" at Rajpipla in May 1982, one representative after another spoke of the tragic plight of the forest people in Gujarat. On enquiring from several of them as to how all this could happen if forestry cooperatives are so well entrenched, the pictures given below emerged.

As in other tribal parts of the country, forests play an extremely important role in the life of the tribals in Gujarat, but these forests have been fast vanishing in several Adivasi areas. In many areas, these forests have been cleared for meeting industrial requirements by the cooperative societies.

The forest cooperative societies have been generally praised as an instrument of helping the tribals. It has been claimed that Gujarat is

different from other parts of the country where forests have been exploited by the contractor system. By organising the cooperatives, it has been assumed that the profits from the exploitation of forest wealth would accrue not to a handful of contractors but to the tribal population. In fact, things have not worked out this way.

In the prevailing power structure and without any significant efforts at organising the Adivasis, the cooperatives, in most cases, have passed into the hands of a few resourceful people who have used the names and thumb impressions of the tribals to corner all the benefits for themselves. It may not be called the contractor system, but under this type of cooperative system, the result, in most places, is the same rapid destruction of forests for the benefit of a few. In some cases, the elite who control the cooperatives also come from the tribal community, but they are alienated from the mass of tribals and do not hesitate to oppress and exploit them in the same way that the outsiders do.

Thus, despite the existence of cooperatives, the only way in which the poor tribals have earned something from the exploitation of the forests is by working as forest labourers at low wage rates. Although the official minimum wage rate is Rs. 8 per day, they are generally paid only Rs. 4 per day, and signatures or thumb impressions are obtained for the full amount. This nonpayment of the minimum wages results in fabulous profits for those in control of the cooperatives.

Moreover, despite the long tradition of the working of forestry cooperatives, the ordinary tribal still lives in awe of the petty employees of the forestry department who often harass him for food and drinks and subject him to other extortions. Sometimes, he is implicated in false cases of theft of forest produce while the real thieves get away scot free.(11)

Similarly, there are double standards regarding the provision of forestry produce for the large scale industrialists and the cottage industries run by the tribals and other poor people. The big industrialists get the forests' produce at a much cheaper rate. The cottage industry workers have to run from pillar to post to get even small allotments of forest produce, especially bamboo, and often, despite their best efforts, they fail to get the quantity of bamboo needed by them for working throughout the season.

Regional Situation I: Patha Region

Patha region of Banda district (Uttar Pradesh) is known for the poverty and exploitation of Kol tribals living there. Despite a fast pace of deforestation, this region still has considerable forest area and scattered trees and plants from which a lot of MFP is collected. During the first visit to this area, about seven years ago, all forestry works were being carried out through contractors. There were several reports of the exploitation of forest labour. In particular, it was said about the condition of labourers engaged in the collection of tendu leaves that this resembled a form of bonded labour. Contractors offered low wages, and if tribals were reluctant to work for them, as better wages were available for some other work, then it was not unknown for musclemen to invade the tribal hamlets.

Then the forest corporation entered the scene. With its advent and the removal of contractors, it was expected by social workers working for the

welfare of tribals that a new beginning may be made in orienting forestry operations, including logging work and collection of minor forest produce, to the welfare of tribals. At that time, a District Forest Officer was particularly enthusiastic about this. At a meeting on welfare of tribals at which senior officials as well as tribals' "representatives" were present, he said that he had evolved a plan by which almost year-round employment could be made available for tribals in the forests. This plan would involve several types of forestry works each of which may last for only a few weeks in a year, but together these could make available almost year-round employment.

Initially, there were some favourable reports of the tribals, especially those engaged in plucking tendu leaves, getting relief with the takeover of this work by the forest corporation. The contractor lobby was busy conspiring against the corporation, not only trying to give it a bad name, but actually using violence against some of its employees.

Then, gradually, complaints started being heard against the corporation. There were delays in making payments to workers, and also unfair deductions were made in the wages due. The workers felt that they were being cheated in the measuring or evaluating of their work and in the calculating of the payment due to them. These complaints have now increased so much that the benefits of the corporation replacing contractors are becoming less and less obvious. A lot of tendu leaves are known to find their way to the godowns of the old contractors in a clandestine way. Illegal felling has also not been reduced with the advent of the corporation.

In any case, the corporation's work has been confined to the felling of trees, bamboos and collection of tendu leaf. Collection of various other types of minor produce which are gathered in considerable quantities, such as anval and mahua, is still in private hands and those gathering this produce get very low wages. Several other MFP items gathered in relatively small quantities (such as vahera and gurij, of medical use) show a similar trend of very low returns for actual gatherers. Though there are several other MFP items whose collection could provide employment, but due to lack of contact with end users, this collection is not being done.

Considerable potential exists for cottage industries engaged in processing of MFP items, but nothing has been done to tap it, despite the fact that a lot of money has been flowing in for the economic betterment of the tribals of this region. Even bamboo for making baskets is given to a very small number of families, though a much larger number of families would like to do this work.

In a recent study done for the Council for the Advancement of Rural Technology (CART), a local social worker, Gaya Prasad Gopay, was able to identify over 40 types of Minor Forest Produce, several of them having multiple uses, which can be collected for use in various industries, especially for the preparation of ayurvedic medicines. But this, by itself, cannot improve the lot of the tribals, for as long as the collection and sale of this produce continues to be organised in such a way that it means low wages for hard work for tribals, no real benefits will accrue to them.(12)

Regional Situation II: Ghar Region(13)

Bann is the rope which is used all over the country on cots (local beds).

While Bann is produced in some other parts of the country, the Bann of Saharanpur is specially well-known for its quality. Bann is made from Bhabar grass.

Bhabar grass grows wild in several patches in the Ghar area of Saharanpur district, Uttar Pradesh. Initially, the people here could cut this grass on their own without making any payment and then use it for making Bann. Then the forestry department started auctioning the Bhabar grass area to contractors. Gradually an exploitative system of the trade of Bhabar grass evolved. Most of the grass was purchased in bulk from contractors by resourceful persons of the village who then sold this to individual Bann makers at a high profit margin. Bhabar sold by them was very expensive. The Bann makers frequently had to buy their raw materials on credit, in the process tying themselves to selling their finished product at very cheap rates to these middlemen. Those Bann makers who took their produce to the market also did not get the proper price, thanks to the collusion among a small number of traders. The labourers employed by the contractors for cutting and carrying Bhabar grass were also exploited by the contractors and paid very low wages.

When the forest corporation entered this trade, various sections of the oppressed had high hopes of getting some relief. However, the corporation entrusted the actual work of cutting the grass to a contractor who continued to exploit the labourers. Further, the corporation continued to charge a very high price for the grass sold by it. Also, it sold this raw material in big lots, making it difficult for the small scale Bann makers to directly purchase any of the grass. The quality of the grass supplied to the Bann makers also deteriorated as the corporation, unlike the contractors, was not too motivated to preserve it properly and protect it from rain. Whereas before the advent of the corporation, a hardworking Bann maker's family could earn Rs. 4 per day, after its operations started, this earning was reduced to half and at some places to even less than half.

Conclusion

From the earlier review of the overall situation and also from these case studies, it appears that the expectations from the nationalisation of MFP working, and the setting up of forest corporations and forest cooperatives, especially those regarding promotion of the welfare of forest people, have not been fulfilled. These changes were not meant just to throw out the contractors or reduce their influence - this would be a very negative way of looking at things - but to herald an alternative system of managing forests which would be more sympathetic to the aspirations of forest people.

"NCDBA - Tribal Areas" had clearly said: "Minor forest produce should not be treated as a source of revenue to the State." However, the forest corporations appear to be very careful about the financial profitability of their operations, as the example from the Ghar region of Saharanpur clearly shows. Instead of bearing the burden of the profits of middlemen, the tribals are asked to bear the burden of the salaries, perks and infrastructure of a hierarchy of forest officers. Where is the difference from their point of view? Things are further aggravated by corruption and other malpractices, and the persistent tendency of several officials to adopt a repressive attitude towards forest people.

It is important for the forest people to organise the implementation of a

genuine welfare policy instead of the largely fake changes that have been made so far. It is the organisation of poor people which will first change the existing unjust system, due to the prevalence of which even the best looking schemes - the ones which seem to be clearly oriented towards improving the condition of the poor - end up serving the interests of the already well-to-do sections. However, the organisation of the poor cannot be a halfway process. If genuine dedicated efforts are made at a place to organise the forest people in such a way that they can actually get an adequate share of the benefits from MFP collection and other forestry workers, then good as this achievement is in itself, it cannot be expected of the forces which started the organisational work or who helped in the process otherwise, to remain content with just this achievement. If one injustice can be fought in a tribal or forest area, why not the various other injustices taking place in the same area? What about the takeover of the land of tribals by moneylenders or other outsiders using unfair means? What about the highly unfair treatment to tribals by contractors who may grab their land for a pittance and later also exploit them as labourers? What about the overall distorted development of the area to benefit some vested interests? Thus organisational initiatives starting with relatively small issues can, in fact, are likely to question later the bigger injustices as well. And it is probably due to this reason that the government, while stressing the need for the organisation of the poor in its various reports and pronouncements, is more frequently seen in its role of repressing such efforts. Thus, as long as we are living in a highly unjust system, characterised by sharp inequalities in all spheres of economy, it is difficult to see the government acting favourably towards genuine organisational efforts of the poor. Without such organisational, efforts it is difficult to see various nicely structured schemes for helping several sections of the poor, as forest people, really succeeding in achieving their stated objectives.

NOTES AND REFERENCES

1. For details on various types of minor forest produce available in Indian forests, see the chapter on MFP in the National Commission on Agriculture's Report No. IX on Forestry. For regional studies see Gaya Prasad Gopal's study on MFP in Banda district of UP, unpublished, Council for the Advancement of Rural Technology, New Delhi. For MFP in Bastar district of Madhya Pradesh see the document "Impact of Bastar Forestry Project on Tribal Economy" prepared by the Tribal and Harijan Welfare Department of the Government of Madhya Pradesh.

2. The word "forest people" is used in this paper to refer to the persons engaged in forestry work such as felling of trees, collection of MFP and forest produce based artisans. This includes mostly persons classified as Scheduled Tribes but also others. A reliable estimate of the number of forest people in India is not available. The 1971 census estimated all forestry workers (which included headloaders) at about two 2 lakh, but this is likely to be a gross underestimate. For instance, the Seventh Plan Document (1985) lists the number of tribal families living in five thousand forest villages alone at two lakh. And of course a large number of forest people live outside forest villages. In particular, it is difficult to estimate the number of headloaders as several families keep shifting to this work off and on when more regular and paying employment is not available. Headloaders and people engaged in shifting cultivation

are "forest people", of course, but their problems have not been included in this paper, as these raise several other issues which need to be treated separately.

3. For an account of the revolting working and living conditions of forest labourers in Garhwal region see Bharat Dogra, Forests and People, first edition, 1980, Chapter 13. An extract on the labourers employment in lifting sleepers "carrying one to two quintal weights on their weak and undernourished bodies across dangerous terrain day in and out, starting in their early teens and continuing right till they are incapacitated or otherwise rendered incapable of pursuing this exhausting work any longer, the unfortunate children of the Himalayas truly lead the life of the beasts of burden. Their toes are worn out from daily trudging on difficult terrain. Their back bears the marks of the heavy logs carried by them for several years, and after years of continuous work, it becomes difficult for them to lie on their back. Their joints also start suffering continuous pain, which makes them incapable of rendering any manual labour at a relatively young age. In the event of injury or illness, no medical care is available nearby and the workers usually cannot afford to go to distant hospitals. Due to all these reasons a large number of deaths take place at the work sites. In most cases the dead are buried under the cover of darkness. Such is the hold of the contractors over their labour force that the labourers hesitate to talk about the death of their companions, or inform their family members of the tragedy. A sum of Rs. 20 or so to cover the cost of a coffin is in some instances the only compensation provided."

4. For tell-tale statements of official intentions, see the statements on increasing commercial orientation of forestry practices made in the Fifth Plan Document and the National Commission on Agriculture's report of forestry (Report No. IX). According to the Fifth Plan Document:

   "The primary object of the Fifth Plan is to initiate measures for increasing production of industrial wood and other forest products by a change-over from conservation oriented forestry to a dynamic programme of production forestry, aiming at clear felling and creating large-scale man-made forests with the help of institutional financing." Later the National Commission on Agriculture was even more specific about its emphasis and priorities. It said: "No planning of forest development would be possible outside the ambit of planning for forest industries. Production of Industrial wood will have to be the raision d'etre for the existence of forests."

5. This interview is taken from "Scenario of the 7 Percent", Volume 2, Cinemart Foundation, New Delhi.

6. For details of ecological ruin caused by excessive resin extraction see Bharat Dogra, Forests and People, second edition, 1983.

7. The issue of preserving genetic diversity of our plant wealth can hardly be overstressed. An important book on this subject is Pat Roy Mooney's

Seeds of the Earth. Regarding the Indian Government's efforts in this direction, see documents of the Sixth and Seventh Plans.

8. For comparison of useful products available in the two types of forests, see the study by the Tribal and Harijan Welfare Department of the Government of Madhya Pradesh, cited above.

9. Tribes of India - The Struggle for Survival, 1985, Oxford University Press, Delhi.

10. What exactly does the word forest-labour mean? Does it include the forest-people engaged in collecting MFP (including firewood) on their own for selling in the market? Normally such forest-people should not be included in "forest labour". Instead "forest labour" includes those employed directly by official agencies or contractors to carry out various forestry operations.

11. See Bharat Dogra's "Milk Imperialism and Hunger - A Report on India" for information on distortions in dairy cooperatives in Gujarat.

12. For more detailed information on collection of MFP in this area see Gaya Prasad Gopal's study cited above.

13. See Bharat Dogra's Poverty, Development and Poverty for information on other sections of artisans whose working conditions are worsening over time.

APPIKO (CHIPKO) MOVEMENT:

LESSONS OF GRASSROOTS ACTION

Pandurang Hedge

The Western Ghats

The hills stretching from Dangs district in Gujarat to Kanyakumari in Tamil Nadu on the western coast are known as Sanhyadri Mountains or the Western Ghats. This 1,600 km. stretch of mountain range is a distinctive feature of the landscape of Peninsular India.

The Ghats possess a rich variety of forest wealth as the humid tropical climate and unusual geological stability has contributed to the evolution of diverse plant life. The tropical forests in the Ghats are the fountain from which about 40 rivers originate. They regulate the water cycle and other ecological processes in Peninsular India. Thus, these Western Ghats play an important role in the prosperity of the southern part of India.

A major part of the Western Ghats fall within Maharashtra, Goa, Karnataka and Kerala. In Karnataka, six hill districts known locally as "Malenadu" (land of hills) form part of the western ghats. Uttara Kannada is one of the districts in "Malenadu", adjacent to Goa on the north west. Until the eighteenth century this district was famous for spices, especially pepper. Pepper grew wild in the forest and the quality was good. The area was known as "Pepper Queen". The small narrow valleys among the hills were famous for crops like areca, cardamom, pepper and banana. The area had suitable climate and adequate water resources to grow multi-storey horticultural crops and paddy. The abundant forest resources constituting 80% of the total geographical area of the district provided an ecological base for a sustainable, self-reliant agricultural system. The forests provided green leaves, pesticide leaves, water and soil.

The Growth of Commercial Interests

Prior to the British invasion these forests were owned by the community. Community ownership of forests was ended by the British and commercial interests became dominant. These interests initiated a process of replacing natural forests with commercial plantations of teak. This policy of commercialisation ignored the interest of the local people, and the link between agriculture and forests was disrupted. Even after independence, the same policy continued, leading to an accelerated depletion of the natural forests.

In 1950, the State Government decided to "develop" the district. In order to remove the "backwardness" of the forest area dwellers, the government established forest-based paper and plywood industry. The objective was to create employment and to "exploit" forest resources. Large tracts of forest land were opened up for mining manganese ore. The government went ahead with the construction of a series of hydel dams, submerging large tracts of prime forest area. To add to all this, the Forest Department continued to convert natural forests into monoculture plantations of teak and eucalyptus.

The increasing population needed increasing land, and consequently, vast tracts of forest land were converted to agriculture. All these factors combined together in causing an accelerated process of deforestation. The forest area of the district was reduced from 80% in 1950 to 20% in 1980. This reduction of tree cover changed the ecological balance of the area, upsetting the agricultural system and forcing the people to recognise the ecological impact of deforestation.

People's Movement and Appiko

Historically, the conflict over forest resources, between commercial and local community interests, had resulted in the launching of a People's Movement in 1830. During the 1930s the same conflict had become the basis of the independence movement.

Once again, in 1981-82, the people of the area got together to oppose the construction of a hydel dam on Bedthi River. This started anew the process of ecological awareness and protest in the district. In September 1983, the Appiko Chaluvali (Movement) was launched in Khalse Forest, near Salkani in Uttara Kannada district. Appiko ("to embrace" in Kannada, the language of Karnataka) is the local equivalent for "chipko". For the first time in the history of South India, a People's Movement to "embrace" the trees in order to save the precious tropical forests was launched. The people in Uttara Kannada got inspiration from the Chipko Andolan of the Himalayas. The path of non-violent action was basic to both Chipko and Appiko, but the distance of 3,000 kms. from the Himalayas and a different socio-economic and cultural milieu in Karnataka are important factors in shaping Appiko as a movement with its own character, independent from the Chipko movement of the Himalayas. Over the past three years, the Appiko Movement has evolved its own strategy to deal with forest related issues.

Since the inception, Appiko has broadened its base and has spread to two more districts in Karnataka, Shimoga and South Kanara. As a people's movement, it has contributed to the raising of awareness levels of the common people in many parts of Karnataka.

Appiko's Impact on Government Forest Policy

The impact of the movement on government forest policy has been marginal. There are some changes at microlevel where commercial felling has been stopped. In these areas only dead and dry trees are felled. They have also stopped clear felling natural forests in major forest areas. Another change concerns planting. Monoculture plantations have gradually changed to mixed plantations. All these measures are ad-hoc in nature and do not reflect any basic change in the forest policy. The major objective of the current policy continues to be the earning of maximum revenue from the forests and shows a total disregard to ecological considerations.

From 1983 to 1985 there were regular and spontaneous activities by the local people to protect the forests in Karnataka from commercial loggers. Due to this pressure the State Government made slight changes in the quantity of wood allotted to forest based industries. The supply of wood to urban centres was reduced and the government propagated fuel efficient chulhas in these areas.

Appiko's Impact on the Growth of Public Awareness

Among the people the growth of awareness has resulted in a number of changes. Many individuals took a decision not to fell green trees from their private land holdings. Individuals and groups also took up programmes for afforestation. These are indicators of the people's involvement in forestry.

Objectives of the Appiko Movement

The objectives of the movement evolved through the process of nonviolent action. The people involved had first hand experience of dealing with the forests and had witnessed the effects of deforestation on the ecosystem. To repair the ecological cycle and restore the health of the Western Ghats, the people opted for a threefold path:

(1) Preservation: to save the remaining natural tropical forests of the Western Ghats

(2) Restoration: to restore the greenery of the hills, and

(3) Rational utilisation: to initiate a process of ensuring a rational utilisation of the forest resources.

It is very important to understand these three objectives in detail and to understand the ideology behind the movement. At the outset, it should be made clear that these ideas emerged out of people's experience and not through any preconceived ideological frameworks. There is, therefore, a constant possibility of change and evolutions.

(1) Preservation

As mentioned earlier, the tropical forests of the Western Ghats play a crucial role in maintaining the ecological balance of the region. The depletion of tree cover leads to soil erosion and eventually converting the area to a lateritic waste. Once these hills turn lateritic, it is not possible to grow trees there, and rich and fertile land is reduced to an unproductive desert. Recognising this, it becomes important that the first priority be to preserve the remaining natural tropical forests of the Western Ghats.

To halt the process of depletion of forests, Appiko has organised and supported local village level groups working to halt commercial logging. The movement also supports spontaneous action started by grassroots groups. These microlevel actions are not an end in themselves, but are a means to establishing harmony between man and nature.

It is through such grassroots actions all over the forest areas that Appiko is attempting to build up a strong force for bringing about changes in the forest policy. The basic "capital" of mankind, water and soil, has to be protected from the onslaught of "scientific" and "commercial" forestry policies.

(2) Restoration

Re-greening the denuded areas of the Western Ghat is an urgent and challenging task. The government's afforestation programme is mainly a one-sided affair without any participation of local people. The government's emphasis is on raising monoculture plantations for commercial gain. This commercial interest ignores the interest of the local people who depend on forests for their survival.

In Appiko, an afforestation programme starts from the village level. The heightened awareness and energy levels achieved through the Appiko actions for saving the forest are channeled into afforestation programmes. This method of afforestation internalises the participation process of the local people. Village level groups take the responsibility of raising saplings and of planting or regenerating barren areas. In many places, such regeneration work is being carried on successfully by Appiko activists. Regeneration work is also being carried out in places where Appiko activities may not have taken place. The spillover effect of the Appiko message covers a large area.

The second major component of the restoration programme is the starting of decentralised village nurseries to raise saplings of indigenous species. In this work Appiko workers are actively cooperating with the local forest department. The department provides polythene bags to raise saplings. Village youth and children gather seeds of indigenous varieties from the forest. In some villages the youth clubs take responsibility for raising saplings; in other cases, individual households are involved in this work. In the Sirsi forest division of Uttara Kannada, ten lakh saplings were grown by people in 1985. This may be a record for the whole country. In three of the villages Appiko has started a process of natural regeneration in barren areas. After interacting with the villagers, small portions of common (barren) land are protected from fire, grazing and lopping. If the land is devoid of any undergrowth, then saplings are planted.

An important aspect of the whole restoration programme is that Appiko is not dependent on any external financial inputs to regreen the barren land. The main input is participation of local people and assistance by the local forest department. Experience has taught us that this is the only way to restore greenery and improve the fertility of the soil.

(3) Rational Utilisation

The depletion of forest resources is the result of an interaction of complex factors. One of the important factors is the enormous increase in human and cattle population exerting pressure on the forest. The shrinking resource base has compelled the people to adopt utilisation and management patterns that are harmful to the regeneration process. It is therefore essential that people's movements should involve the local villagers and work towards changing destructive practices and decreasing the pressure on the forests.

In some areas excessive lopping of trees and young saplings is carried on to increase the quantity of green organic manure. This is very dangerous as it halts the process of regeneration and further shrinks the resource base. In addition to this, conflicts over access to resources like fuelwood and timber, force the people to resort to harmful and illegal felling of green trees. Thus, the whole mismanagement of renewable resources starts a vicious circle of resource degradation leading to scarcity which forces the people to further destroy the forests.

It is in this sphere that Appiko is consciously attempting to introduce the concepts of rational utilisation of resources. For example, Appiko succeeded in persuading people to stop or to minimise lopping of trees in the rainy season. This was a difficult task, and took a long time as it involved changing people's attitudes.

Appiko is also involved in promoting alternative energy sources and encourages the installation of biogas plants and the building of fuel efficient chulhas (stoves). On an average, Appiko activists have successfully motivated the people to install 25 biogas plants per year since 1983. However, as these can be within the reach of only well-to-do farmers, Appiko activists are building fuel saving chulhas for others. Over the past three years, Appiko activists have installed about 1,000 such chulhas in rural areas as well as in towns. Both these activities have saved a huge quantity of fuelwood, reducing the pressure on forests.

Many people argue that providing wood to forest-based industries is also a rational use of forest products. When we are discussing rational use, it is mainly related to local utilisation, not to industrial use. The mushrooming forest-based industries have already overexploited the forest resources. In order to protect the interests of society at large, to regulate sustainable flow of water and to improve the soil, it is essential to put a moratorium on commercial felling all over the Western Ghats.

Execution of Objectives

The above objectives of Appiko: preservation, restoration and utilisation, are implemented through an informal organisation known as Parisara Sanmrakshana Kendra (Environment Conservation Centre), based in Sirsi, Uttara Kannada. This is not a registered organisation nor does it have paid workers. It is a group of voluntary activists working to execute the objectives of Appiko. It depends on the local community for its financial resources. In brief, it practises the philosophy of decentralised organisational structure, trying to avoid many of the pitfalls that face NGOs who have become institutionalised.

Another feature of the Appiko Movement is its emphasis on the people's role in, and duty towards, management of resources. Very often people's movements overemphasise the rights of people to forests and their struggle is aimed at getting back these rights. Though this is an important aspect, nevertheless, a people's movement cannot be sustained on this single issue. Realising the limited impact of this approach, Appiko is trying to go deeper to initiate positive actions which can be sustained in the future. The

objectives of restoration and utilisation provide opportunities to perform one's responsibility and duty towards rebuilding the ecological health of the forests. Appiko activists feel that a proper balance between rights and duties is the basis of a nonviolent people's movement.

Case Studies

To help understand how these objectives are implemented in practice, two case studies are given below. The purpose of presenting these case studies is to bring out certain facts about grassroots action.

CASE 1: Salkani

Background: Salkani is a small village in Sirsi taluka, Uttara Kannada district. It is situated in a small narrow valley in the midst of hills. A total of 150 people live in 15 households, the houses scattered far away from each other in the valley. The village has 60 acres of agricultural land, 50 acres of which is used for spice crops of pepper and cardamom, and for areca. The rest of the ten acres is utilised to grow paddy as kharif crop (South-West monsoon season), and pulses and cereals as rabi crop (Winter & Summer seasons). The farmers labour in the field, and during the planting and harvest seasons, they hire labourers. The land distribution is egalitarian and landlessness is restricted to migratory labourers. Though one does not see material affluence, the area meets the people's basic needs. Compared to other areas in India, the extent of poverty, in relative terms, is very little. This level of economic prosperity has created a social milieu rich in cultural and folk traditions.

Farmers prefer an organic approach to agriculture and horticulture. The agricultural practices are very much linked to forest resources as farmers are dependent on green leaves, water and a stable microclimate.

First Phase:

The disappearance of forests from the surrounding hill areas disrupted the ecological balance upsetting the agricultural pattern of the area. The youth club members wanted to halt the trend of deforestation. They organised villagers around the area and launched the Appiko Movement. The village people of Salkani played an important role in a three month struggle. They succeeded in halting the commercial logging. This enhanced the self confidence of the people, raising their awareness and motivation levels.

Second Phase:

The seeds of regeneration and of afforestation were sown during the first phase. The people of Salkani embarked upon a plan to reforest 17 acres of common barren land. In November 1983, they held a village meeting to decide about the strategies for planting. Individual households contributed labour (or paid for labour) to dig a trench to protect the area. In the early months of the rainy season, local people brought sprouted seedlings from the forest and spread them on barren

land. They also planted young saplings, brought from the forest, in the area. The people confidently assumed that there was no need to plant saplings on a large scale as chances of regeneration were good, provided the area was protected from grazing, fire and lopping.

As the rainy season came to an end (October '84), almost 50% of the saplings thrived, and people thought that their assumption was true. However, in the winter and summer months (January to May, 1985) the mortality rate increased and only 10% of the saplings survived. People realised that by following this method it would take a long time to grow tree cover. This was due to the fact that the lateritic process had deprived the area of fertility, rendering the soil too nutrient deficient to fully support the natural regeneration process.

This experience forced the people to change their earlier assumption. Subsequently, they decided to plant grown saplings. They started local village nurseries and indigenous species of fertilizer and fodder trees were planted. The planting took place in June 1985 and the survival rate until the summer of 1986 was around 40%.

1986: Encouraged by the positive signs of bringing back greenery in the area, the villagers have taken another plot of five acres of common barren land. This is on the slope of a hill and people have planted saplings there. As the plot is protected, the youth of the village will take the responsibility of keeping a watch during the process of regeneration.

Creating a Sacred Grove: The idea of "Sacred Grove" is very common in the Western Ghats. The State Forest Department is trying to revive this idea among the people. Fortunately there are some highly motivated forest officials genuinely interested in involving the people in afforestation programmes. The people from Salkani and other nearby villages took an active part in the planting programme of sacred trees on the top of a barren hill. The Forest Department brought saplings of neem, bargad and ala, that are sacred to the people. The planting was a coordinated effort of the Forest Department and the people. This planting was done in the second week of June 1986. As the monsoon was delayed, the survival of these trees was threatened. At this point, the youth from Salkani organised nearby villagers and carried water from a distance of three kilometres, climbing steep hills, to water the sacred plants. They regularly watered the plants until the start of the monsoon rains.

This is a novel example of how a state sponsored programme can involve local people in tree planting work. The role of the Conservator of Forests (Canara Circle) and other officers is laudable as they sought the participation of the local people.

Decentralised Nursery: Another activity in which the people took an active interest was the raising of the village nursery. The youth club of Salkani raised 5000 saplings in 1985. The Forest Department provided polythene bags and the village people collected seedlings of local species from the forest. Labour, fencing and other inputs were provided through voluntary work. Children took an active interest in watering plants. The Forest Department gave 0.20 paise per sapling, an income for the Youth Club. Due to drought and water shortage in 1986, they were unable to raise saplings this year.

Third Phase:

This phase relates to the execution of the objective of rational use of resources. This is the most difficult task, as in this work the existing management practices followed by various people are challenged. Many of these practices have become a habit and a ritual, accelerating the process of degradation.

Fire Protection: It is an accepted notion among most villagers that by burning grassland every year one can get faster growth of grass next year or after the rains. This is one of the major causes for the death of young saplings. It also halts the process of regeneration, leading to an accelerated process of soil erosion.

In Salkani, the younger generation is aware of these factors. They have tried to change the attitude of the people. Out of 15 households, 12 have been persuaded not to burn their grassland. Others are carefully watching the process to see how the grassland is able to give good fodder without burning the leftover grass.

The villagers have also formed their own fire protection group to put off the fire around their forest land.

Lopping: To increase the quantity of organic manure, people bring green leaves on headloads by lopping trees from common and forest land. Lopping is mainly done during the rainy season (four months). These green leaves and the branches of trees are mixed with cow dung to prepare organic manure. This practice of lopping is harmful to the growth of the trees. When a standing tree is lopped of its branches the rain water seeps through the tree and it starts dying. This activity has increased to a very high level exerting a lot of pressure on forest and common land.

Appiko activists are educating people about the dangers of such mismanagement. The people have found it difficult to change their practice but there are positive signs. Many households have stopped lopping totally or have reduced it. In Salkani, constant education and persuasion has yielded the following results.

Year	Total No. of headloads of green leaves (of 40 kg. each)
1982	45,000
1983	37,000
1984	28,000
1985	22,000

The decrease in the number of headloads brought in by the whole village is an indicator of the gradual change in attitudes among the people. Out of 15 houses, seven families have totally stopped lopping since the past two years, others have drastically reduced the headloads. Those who go for lopping are persuaded not to fell branches of growing or young trees.

This change in the management practice is aimed at reducing the pressure on forests during the rainy months, the most critical period for plants as the growth is maximum during this period.

Alternative Energy: Six gobar gas plants have been built in the village during the past three years. Three houses have installed fuel efficient chulhas. These have brought down the consumption of fuelwood to a large extent, reducing the pressure on forests. Installation of biogas plants has forced the farmers to stall feed their cattle (in order to get more gobar/cowdung). This has helped in reducing the pressure of grazing.

CASE 2: Bommanahalli

Background: Bommanahalli is a tiny village in Siri taluka, Uttara Kannada. It consists of eight households with a population of 90 people. It is situated in front of a horticultural valley. Of a total of 50 acres of agricultural land, half is occupied by a horticulture garden, the other half is a paddy field. Most of the agricultural work is done by farmers. During planting and harvesting seasons migratory labourers come to the village for work. In 1986 this village provided employment to 50 labourers for three months. The labourers had come from a drought affected area.

The agricultural land is surrounded on all sides by good tree cover. The agricultural practice is very much linked to the forest resources. This village is not involved in direct Appiko actions of saving the forest, but some of the young men from this village took part in direct action elsewhere in the district. These youth have initiated a series of actions in their village as well as in other neighbouring villages.

Village Nursery: Every family is involved in raising saplings. The activists get polythene bags from the forest department. These are distributed to all families. Usually these bags (filled with sand and soil) are kept in those locations where waste water is disposed. Children take care of the weeding. In 1985 this village raised 8,000 saplings. In 1986 they were able to raise only 4,000 saplings due to shortage of water. Most of the saplings are of local species, for which people get 0.20 paise from the Forest Department.

Afforestation: In 1986, a village meeting was held to discuss the possibilities of starting an afforestation/regeneration programme on common barren land. They decided to take a five acre plot for initial experimentation. The Forest Department was taking over a huge area of common land for a monoculture plantation of acacia, a fast growing species, primarily to meet fuelwood demand of urban areas. They were spending huge sums of money on machinery, fertilizers and fencing.

To counter this capital intensive afforestation programme, the villagers have taken a small area to show that trees can be grown without these huge financial inputs. A Nature Camp was held in this village and the participants planted trees on this plot. The area will be protected from grazing, fire and lopping. The results will be known in the next five years. It will be a test of local level techniques versus that of the capital intensive techniques of the Forest Department.

Management of Private Forest: The village has 200 acres of private individual forest that is covered with a thick tree canopy of indigenous trees. It is the source of fertiliser, fuelwood, food and fodder. The excellent regeneration is the result of prudent management practices followed in the past few years.

Lopping: People of this village are relatively progressive and have quickly adopted the new ideas. They have brought down the lopping of green trees to an absolute minimum. While bringing green leaves, they follow an informal rule of not cutting young, upcoming saplings and not lopping the standing trees, but collecting only weeds. The figures of headloads of green leaves over previous years is as follows:

Year	No. of headloads
1982	16,000
1983	13,000
1984	8,000
1985	4,000

Alternative Energy: One gobar gas plant and two improved chulhas have been constructed in this village.

A Comment on the Case Studies

We have deliberately given two villages in the case study. Salkani has played an important role in starting the Appiko Movement, so the awareness and actions are varied. But the second village, Bommanahalli is not involved in direct action. It is an example of the effort and hard work of Appiko activists who have taken the message of Appiko to this village. From the facts of these two case studies, a reader can arrive at his own conclusion.

Lessons of Grassroots Action

The activists of Appiko Movement have undergone a variety of experiences in the last three years. A span of three years in a people's movement is a very short period to arrive at any definite conclusions. However, a review of past events bring out some important lessons which may be useful to further the understanding of the links between forestry and people's movements.

(1) Awareness:

Broadly, the ongoing process of destruction of forests and its impact on local ecology has already created an awareness among people living near forest areas. It is the fear of local authorities, the so called "scientific forestry" of the government, that prevents people from action. So the urgent need is to build the confidence of the people. The hollowness of the anti-people forest policy should be exposed.

(2) Activism:

This involves basically preparing and training village people to work for the cause of forestry. It is necessary to have voluntary activists in as many villages as possible. It is not feasible to employ workers in each village to propagate the idea of regreening. The need is for internalising of the idea by village people. The means which we can use to motivate activists are: slide shows, nature camps, talks, visiting schools, using village fairs, street and folk theatre and many such techniques to reach their hearts.

(3) Action:

Once activism starts seriously, it is usually followed by actions. It is essential to see that the majority of the village people are involved in actions. This action phase is most interesting as new ideas can be introduced. The actions taken by small, village level groups are more sustaining as they emerge spontaneously. Forcing people towards some action is not a sustainable strategy.

For most people in India, Chipko (or Appiko) is a movement to save trees by "embracing", an action that is glorified. The basic philosophy of alternative development, of establishing a harmonious relationship between human beings and nature is ignored by a majority of the people. In Appiko, the objectives of restoration, regeneration and rational utilisation are the basic pillars of the movement. These invisible actions shall lead to sustainable development, in which the movement lives. Appiko has emerged due to the wrong harmful development policies implemented in the Western Ghats. Now the people's movement has given an alternative vision of development for the Western Ghats, the basis of which is a harmonious relationship with nature.

TRIBALS AND NATURE

Madhu Ramnath

Introduction

What is the nature of the relationship between Man and the Forest? What do we mean by "conservation" and "protection"? What is the purpose of National Parks and Sanctuaries? How does urban man perceive the forest? Is the forest a "wilderness" to the Adivasi (Tribals)? Are Adivasis encroachers if they live within a National Park? How aware are city folk of their environment? Is it true that Adivasis destroy their own environment? What are the functions of the Forest Department, and does it perform them? How and why is commercial forestry justified? Is any interference in the Adivasi way of life justified? Are not the Adivasis the best protectors of their, and our, environment?

I do not know the answers to these questions. Rather, I have put down a few anecdotes concerning the forest, the Adivasis, and the administrators of the forests, which I feel have a direct bearing on the questions asked in the previous paragraph.

These anecdotes have been gathered during my six year association with forests, the government administrators of forests and the peoples of the forests. My relationship with the Adivasis has culminated in living for most of the last four years in a remote forest village where I built my own hut three years ago. I have participated fully in the way of life of the people there; hunting and gathering, cultivating and tending cattle, singing and dancing, and adopting the Durva forms of worship and custom. Also, I have worked for various periods for government agencies examining the "forest question" of conservation and protection. This has given me the chance to look at some of these issues of management from the administrative side of the fence as well.

Anecdotes

Where the outsider sets foot, said the old man in Bastar, even grass will not grow again.

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After two years in my hut in the village, I had felt the urge to leave it and build a new one. I donated the logs of my old hut to the annual "kurval" dance and now the spot where the hut stood has been recovered by the forest. In many villages in the plains, one comes across the pukka alien structures of schools, police-thanas, checkgates, and dispensaries, quite a few of them abandoned and in a dilapidated condition. My tribal friends see these patches of concrete as permanent blotches on the surface of the earth.

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The forests around our village are dense and there is enough bamboo, firewood and other forest produce for us all, even though new settlers have

come to our village over the last ten years. Older folk at times mention that we did not need to go as far as we do now to hunt and gather. Yet none of the others have felt any perceptible change, and until now, the outsiders have not come near our village. I have noticed that none of our people in the village have a conception of life without the forest; for them, the forest is not something which has a limit. Even then we have laws which forbid us from using our axe without immediate reason; we may not store or chop anything for the future.

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While working in the fields or hillslopes, clearing bushes or pulling out weeds, I have often to ask whether or not to pull out a plant which I cannot identify. It surprises people that a man who eats grain and vegetable is ignorant of the ways of growing or identifying them. It is with some difficulty that I explain that I come from a land where knowledge is broken into many parts and that we do not grow or gather the food we eat, that we buy what we need from a stone-hut called a "shop".

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Budra had had an important dream. He had "seen" a plant which could be used as a Kemur (medicine). The elders were immediately called and, while Budra's memory was fresh, they questioned him. What are the leaves like? What colour? Were there thorns? Flowers? What were the plants around? Where? Such a plant as Budra told us about, it was later discovered, did grow on the hills across our village. The elders had added another Kemur to their knowledge. As the Durvas often say, to be ignorant of Kemur is like falling off a tree and breaking one's neck.

Toads are abundant on the hillslopes during the rainy season. No Durva child or man would kill these harmless creatures; every toad a man kills he loses a friend, say the Durvas. Even snakes, if not poisonous, are not attacked. Poisonous ones which do not frequent village space and, hence, not dangerous to us, are not bothered. On one occasion, while Amasu and I were working in the forest, a snake slithered in the nearby grass. Instinctively Amasu had picked up a stone and, in one swinging motion, flung it at the snake. It died of a smashed head. We discovered later that it was a harmless kind. Amasu, a young man of about 20 summers, sat on a rock for a long, long time, his head in his hands. "I need not have done it", he kept saying, "to no one in particular."

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This is an incident about the Forest Department in Bastar and of two trees, one of sal and the other of beeja, both very tall and huge.

These two trees were very famous in that area and, for the people in those neighbouring forests, an important landmark for a very long time. A day came when trees had to be marked by the Forest Department; those to be cut and those to remain. The forest guard who marked these trees had to mark one to be felled and the other to be protected. He liked the sal and therefore, marked the beeja to be cut down. A week or so later the director of the National Park in the area went by those trees in his jeep and seeing those markings, stopped. It seems he preferred beeja to sal. On his orders the markings were reversed. More weeks went by. Then the Divisional Forest

Officer came along and saw the two trees. Unlike the Director, he was a sal man and orders were at once given. The two trees went through the ritual of disfiguration again.

By this time an undercurrent of resentment had begun among the staff of the Forest Department; there was the sal group and there was the beeja group, arguing, pleading, threatening each other about which tree should live and which should die. Then came the "God of the Forest Department", the Conservator Saab, and ironically, the trees went through their fourth man-made indications; the beeja to remain and the sal to go. The loyalties of the entire staff were divided and most of them were clear about which side they belonged to.

Just before the sal was to be felled someone noticed that though the trees stood about 20 paces away from each other on the ground, their branches touched and intermingled in the air, almost leaning towards each other. The beeja group were troubled, for it knew that not much of its tree would remain if the other was felled, and made a decision that neither tree could go; both the groups came together on this and today the trees still stand there, marked and chopped many times over by the Forest Department paint and axe, telling the tale of the ways of the administrators of forests.

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Old man Dev, with whom I tended the village cattle for many months, would constantly speak to the animals: "Now, now, where do you think you are going, black bull, you stay off from those fields, think we plough the land for you? Wait till I come there."

I asked Dev if the cattle understood us. "He said, not only cattle, but even the rain and sun and wind understand us when we speak to them. Don't we say, '<u>Id yethoth vani cha?</u> (What rain is this?)', when it rains; '<u>Id yethoth nendi cha</u> (What heat is this?)', when the sun shines hard; or '<u>Id yethoth ralli cha?</u> (What wind is this?)', when the winds are fierce? When we express our discomfort in this manner nature herself feels shy and hides away, making us more comfortable."

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While sitting with Budra Sita, a man-of-medicine in our village, a pig ambled within the fence. It made its way to the small garden patch and began to pull at the pumpkin creeper. After watching it briefly, Budra, in a soft voice said, "Pig, what are you doing?" The pig continued to tug away. Budra spoke again, in a tone which was more stern, "What kind of pig are you, not even listening when spoken to?" The pig raised its head in that awkward and shy fashion and went away.

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It was night and the days were those of rain. By the fire in my hut Dusheru and I sat. Outside it was dark and drizzling, our sight not going further than a couple of paces through that blackness.

We could not have lain down long when I saw that Dusheru was sitting up, his eyes on the fence outside the hut. Everything was still except for the plop-plop of raindrops from the leaves on to the roof of the hut. I gestured

to Dusheru asking, "What is it?" He whispered, "Panther, just outside the hut."

We sat in silence, waiting for something to break that immense stillness. Then Dusheru called out to Dev, whose hut is closest to mine. "Are you alright Dev? Are your pigs penned?" Dev answered, "I know he is around but I'm alright. Ask Sombaru, he was complaining about his pig-pen having no door." So Dusharu's voice went to Sombaru. Sombaru called back, "I have sensed him and am standing next to the pig-pen with my axe; I am alright here." In this manner we called out to all the 20 huts in our village. From each hut the answer was, "I have sensed him."

Suddenly Dusheru said that the panther had left and shortly after that we heard the restless stamping of hoofs in cowsheds, sounds of uneasiness from hen houses and the dog growled.

Softly, on the far side of the village, a fence creaked with a lot of weight on it and then there was silence. Dusheru said that he felt it could have been Oora's fence, that a goat or calf had most probably been carried away.

At dawn everyone gathered outside my hut, where the panther had waited for a long time. From there he had gone right through the village to Oora's fence, jumped over and killed a goat, and from there we tracked it to the outskirts of the village. We carried the half-eaten remains of the goat to the toddy palms and roasted it with salt and chillies. While drinking the toddy we talked about panthers, laughing and cursing the one who had come the previous night. There was no resentment, for was not the panther the best of all hunters in the forest?

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Gonchu is one of the oldest Durvas living in our parts of the forest. I once asked him about the days when he was a young boy. Before he began to tell me, he wanted me to know exactly the period of time he was talking about. He asked, "Have you seen that tamarind tree near Dev's hut, that one which gives shade to Budra's hut and to Dev's, that big tree? Children play under it and for festivals we gather in its shade? That tree and I were the same height once. That is my bod meri." (When the umbilical cord of a newborn child falls away, it is buried, usually with a seed, close to the hut. Trees which grow from such seeds are known as bod meris.)

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Pagnu and Chiku, two young men, were with me one afternoon. I asked them whether Chuku's brother was older than Pagnu. They could not tell me immediately, so they began to find out which palms in the village they had drunk the toddy from. Finally, coming to the palm near Raga's hut, Chiku said that his brother was too young when they tapped that palm. Pagnu had been old enough to go to the palm himself. We knew then that Pagnu was older than Chuku's brother.

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It was with Aita that I found the nest of baby wagtails. Seeing that there was almost no meat on them, I told Aita that we should let them be, but Aita got them out and asked me to keep quiet and watch. He tied their feet

together with a thin vine and left them on a flat rock. The young birds began to cry out and soon the parent-birds appeared, answering the desperate cries of their young ones. Aita waited close at hand with a rock. When the big birds came near enough, Aita's hand flashed and one of the birds dropped dead. We went home with one large wagtail and two baby wagtails.

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Sombaru stood with me on the hill watching an eagle circle gracefully above us. After watching it in silence for a while I whispered, more to myself than to him, "I wish I could fly." Sombaru said, with his eyes still on the bird, "We'd be roasting him by now if we could."

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Lachman had always been a lover of pets. At various times he has had with him drongos, parrots, pigeons, squirrels, cats and dogs, along with the cattle, pigs and poultry. Having come upon a female mongoose with her young one, Lachman had brought them to his hut. Unfortunately, the mother died and Lachman asked his wife to suckle the young one. Soon it was a very familiar sight in the village to see Lachman's wife with her child sucking one breast, and the mongoose at the other. The mongoose lived and grew up to be a full sized one.

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In the Kanger Valley National Park there is a teak plantation. Previously, where the plantation now stands, there had been natural forests and grasslands. Grasslands are not considered as important by the administrators; they usually say, "There was nothing here" when asked about the kind of vegetation which existed there. Such an attitude is taken because grasslands (and sometimes even indigenous forests) are of less commercial value than teak plantations. Grasslands are not considered in terms of their value to herbivores, and hence, to carnivores. In the Kanger Valley one of the problems villagers face is that of cattle lifted by predators, due to the fall in the number of herbivores. Since the disappearance of such grass from the valley, the villagers have resorted to stone roofs for their huts. These flat stones have to be brought in trucks from nearby towns for enormous sums of money; hence, the village folk are forced to work as daily-wage labourers for the cityfolk in order to earn the money required for their roofs.

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A goat in our village had broken its leg and stayed back in the goathouse when the rest went out to graze. One morning, a couple of days after the goat had been injured, old man Gonor left before light and went into the forest. He returned when the sun rose with different leaves and barks. These was mashed together with a smooth, round stone. A few of us held the goat down firmly. The old man chanted and with his knife made a quick, small incision on the wound. When blood squirted out, he packed the area with medicine (Kemur), then tied bamboo splints along the leg to make sure that the goat did not bend the leg before the bone had joined. For over a week after that the old man brought leaves to the animal. The goat ate and rested. When Gonor removed the splints, the goat joined the herd as before.

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We (Sombaru, Budra and I) woke up on the machan in the forest one morning. The first words Sombaru spoke as we huddled around the fire were, "It's going to rain today; I dreamt of toddy." And Budra said, "That's the way I feel too; I dreamt of mangoes." Those were days of winter, of clear, blue skies and bright sunshine. Yet, on that morning, the sky was cloudy and towards noon it began to drizzle.

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Dev woke up cursing the race of wild boar. We had spent the night on the hillslope guarding our grain, blowing our horns and calling out to keep animals away. I could not believe Dev when he told me that wild boar had been to our fields; we had been alert. But Dev insisted he was right, for he had dreamt of cattle grazing in the fields, and we went down to check. Dev was right.

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I was held down physically for the operation and told to look away and grind my teeth to bear the pain; a thorn was to be extracted from the sole of my foot with a knife. I screamed and made a futile struggle while a small portion of skin from the sole was removed, deep enough for the thorn to be taken out. When this was over and the thorn removed, a twig of sal was heated and its juice, which was warm, was made to drip into the "hole" in my sole. The next day I felt that my wound had healed.

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Quite often the perkala (chewing twig), which we use to brush our teeth with, is chosen according to our needs. For instance, somebody who suffers from bleeding gums would use irupa twigs, people with upset stomachs kaldhi twigs or if someone is in a hurry, the closest piece of bamboo.

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The sacred knowledge of medicinal plants is a closely guarded secret and lies with a few elders of the village. This knowledge is passed onto the next generation at times which the elders think appropriate. Though for common ailments like a headache, stomach upsets or a bruise most people have a fair idea of the cure; for more serious problems like snakebites and mad dog bites, it is the elders who know the secrets of healing.

The ability to heal is closely interlinked with the knowledge of the forest itself. For instance, when Budra lay very seriously ill the most powerful of all the spirits had been invoked. The spirit spoke, saying that the plants needed for the ceremonies of cure were the muramurtandi growing on an anthill, the mutritunda, and the flower of hazari.

The elders held a council and the youth were sent off to various parts of the forest in search of these plants. For the mutritunda and the muramurtandi, the youth went to the hills on the other side of our village. The days of hazari were over in our parts but some elders knew that it flowered later in the vicinity of Kermel and that is where we got it from. The ceremonies, and later the cure, took place without any more problems once these essentials had been brought. In a few days, Budra was working in his fields as before.

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In villages close to roads, towns, and urban influence, where social workers, doctors, and dispensaries exist, there has been a steady decline in the knowledge of indigenous medicine and cures. Curiously enough, alien medicine has not kept ailments out of Adivasi life as effectively as indigenous medicine has in the remoter villages.

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I have often seen Dusheru with his grandson, Lakuu, on his lap, near a stream or in the fields. Lakuu listens to tales of the land, repeats with his grandfather the names of trees the old man points out; with small steps, stalks butterflies while the old man watches; learns which thorns prick and which insects bite; these are days when a child has no formal responsibility of any kind and begins to take the first steps which every man in such a village as ours will eventually have to walk.

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Young children who stand as high as a man's hip are not very useful on a big hunt. It is the youth and the elders who do most of the work. Yet the children are taken along, to act as noisemakers. They stay close to the elders during the hunt. When we spend nights out in the forest on such hunting trips, these children take care of the "camp". They gather firewood and leaves, bring water, help in the cooking and serve the elders. Such outings familiarise the children with the trails they have to walk in the future.

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An understanding of the basic forms of life in the forest (plants and trees, birds and animals, insects and reptiles) is essential if one is to fathom the more complex workings of Nature. The three seasons of the year (summer, rain and winter) can be identified with greater precision with such a knowledge. Summer is Meddul Vadek, days of mangoes. Everyone in our village knows that the mangoes on the tree outside Musaki's hut ripen first and those on the tree near the Mother Stream ripen last; that, during the last of the mangoes, the first figs near Bandakhund are ready to be eaten. We know that the Pengal stream dries up before the stream of Vethil; that by the time the Baata stream is reduced to a trickle the rains should come. If the Baata stream dries up completely, our summer has been an extended one.

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The aim of national parks and game sanctuaries is to ensure the protection of the environment and of the wildlife within it. Yet one sees that within most sanctuaries, forestry operations do take place and the forests are worked upon in a purely commercial way. According to reports, the total revenue from the Simlipal Tiger Reserve in Orissa for the year 1983 - 1984 was Rs. 1 crore. Plantations of teak, eucalyptus or pine often take the place of indigenous forests and grasslands. All this is in some way justified by the laws of the forest administration; forestry operations may take place within a sanctuary but not within a national park. The scale on which such operations are mounted do not seem to be taken into account.

Adivasis who live within areas declared as national parks or sanctuaries are prohibited by law to use the forest as they used to. They are not allowed to hunt or fish, even with primitive methods. In the Durva village in Kanger Valley I noticed that there were no pigs, and I was surprised; it was the first time that I had seen a Durva village without pigs. Later I learnt that the fields have no fences around them for protection, as the people are not allowed to chop bamboo from the forests around them. Pigs are very important for Durva ceremonies and sacrifices and are also a source of meat. Now, because of the national park, the Durvas of Kanger Valley are almost vegetarians!

Wildlife and forest management has meant - if national parks and game sanctuaries are anything to go by - an attempt at separating man from nature. Once an area has been surveyed and declared as a national park, the people in that area (who are in most cases tribals) are asked to leave. This process of throwing people out from their homes is termed as rehabilitation by the authorities. After the human problem is removed, these forests are tended like large, private gardens.

One has only to visit the still pristine forests of Central India to know that the tribal way of life is not in contradiction with conservation. Only these areas have not come under the law of commercial forestry.

There are many cases where the park authorities have notified, according to law, such tribal ("encroacher") villages to leave the area. The authorities offer them money or land, outside the area, as compensation. The time taken from the day of notification to the actual shifting of a village is usually considerable; either because the process itself is of such a nature or because of administrative lethargy. But this gap is a very crucial one; a man begins to look upon this home, which is the forest and on which his life depended, as a place he could make the most of before he leaves. The prophecy that tribals destroy the forest, in such cases, becomes a self-fulfilling one, thereby legitimising the rehabilitation of other villages.

Conclusion

It is apparent that there are two ways of relating to the forests: that of the administrators and that of the Adivasis; one imposed and parasitic; the other, inherent and symbiotic.

The alien management of the forest leads to administrative cacophony. Examples which spring immediately to mind are plantations which replace natural forests and grasslands, monoculture, corruption, extinction of plant and animal species and the destruction of traditional ways of life.

Conversely, the Adivasi way of life is a way of management. It both preserves and perpetuates the environment because the Adivasis and the forests are interdependent; no man will deliberately destroy his own home.

LEGAL ASPECTS OF NON-GOVERNMENTAL ORGANIZATIONS' INVOLVEMENT IN FORESTRY

Chhatrapati Singh

The Need

The alarming rate at which India's forest resources have been depleted is far beyond any ecological or economic level that can be called critical. India loses 1.5 million hectares of good forest each year. According to the National Forest Policy of 1953, one-third of the country's land should be under good forest cover. Official statistics claim that about 70 million hectares are "forest lands", but the satellite pictures have shown this to be false. Barely 20-30 million hectares are under some kind of tree cover. Of the official 70 million hectares, about 5.6 million hectares have already been transferred to encroachers; 34 million hectares are heavily entangled with problems of local entitlements and rights. It is the remaining 30 million hectares which is now to face the onslaught of industrial and local demands.

Estimates on the consumption of wood have been placed by the National Commission on Agriculture in the region of 211 million cubic metres for each year in this decade, of which 184 million cubic metres is required for fuel. As against this, the growth of timber stock is estimated to be not more than around 50 million cubic metres, that is, the consumption is about four times the production. It is also estimated that India's total standing stock is about 2,500 million cubic metres. At the present rate of consumption the resources of the forests will, in fact, disappear within two decades, unless urgent action for regeneration and protection is undertaken.

In the light of this extremely demanding situation, massive afforestation is the only solution. The Forest Officials do not have the technical, legal and political know-how of handling land which is outside their jurisdiction. Much of the afforestation will have to be done on private and public land outside their control. The only solution is large scale involvement of non-governmental organisations (NGOs) in forestry programmes. Such organizations not only have closer ties with the local people but quite often also the zeal and the know-how. They are also free from bureaucratic fetters which slow down the work of the officials. So far the NGOs have been involved mainly in developmental work not directly related to forestry, but given the ecological and natural resource crises, it is both a Constitutional and moral obligation on them now to involve themselves in forestry work.

Forestry, however, raises numerous legal issues for both government and non-governmental agencies. The problems they face are different. In this monograph, only issues related to NGO efforts in forestry will be documented and discussed. The analysis will present not only the existing conditions, but also, given the legal provisions, what alternative options are available to the NGOs for engaging themselves in forestry in more fruitful ways.

Legal Classification of NGOs and Forestry

In various discourses concerning environmental issues, the terms social forestry, forests, wastelands, and non-government agencies are very vaguely used, often widely, to mean more than one type of legal entity or action. If

legal issues and problems are to be properly characterised, the terms need to be appropriately defined for communicative clarity. These definitions must, of course, be as true to the real situation as possible.

It has become common to define forestry work in terms of the purposes it is supposed to achieve. For example, "social forestry" is supposed to serve the interest of the underprivileged, in terms of their fuel, fodder and other needs. Whereas "farm forestry" is supposed to be done by private farmers for their own personal ends. A close look at the reality shows that very often neither "social forestry" achieves the desired goals, nor is "farm forestry" done by individual farmers alone. This is likely to lead to serious confusions in understanding the situation. For legal purposes, which require clarity and precision, vague political slogans such as "social forestry" will not do; authentic definitions corresponding to reality are required.

Legally, forestry can be undertaken either by individuals, corporate or non-corporate groups, cooperatives or the state, either singly or in mutual collaboration. We, therefore, have the following types of forestry:

(1) State Forestry: i.e., forestry undertaken by the government agencies, viz. Forest Department, its Social Forestry wing, or Ministry of Agriculture. Almost all "social forestry" carried out in India so far, has been undertaken by governmental agencies. In the course of this paper, therefore, we shall use "social forestry" to mean state forestry, unless specified otherwise. State Forestry has usually been carried out on state owned lands, such as forest land, village commons, public land, and embankments.

(2) Private Forestry: Unlike State Forestry, which is carried out on common property, private forestry is carried out on private lands. This can be of three types:

A. forestry done by landlords on their own private property

B. forestry done individually by the landless on land leased to them for occupation or possession

C. forestry done by registered companies on privately leased or owned land.

Most "farm forestry", whether on cultivable agrarian land or on wastelands, is of this type. Hence, "farm forestry" will be used in the sense of private forestry, in this paper, unless specified otherwise.

(3) Cooperative Forestry: Here land-owning or landless individuals or groups join together as members to form a society (unlimited) for the purpose of forestry. They may draw their financial resources from members, cooperative banks, the government, or other agencies. Cooperatives for forestry have so far not taken root in India.

The term "Non-Governmental Organisation" (NGO) is similarly used in various senses. Legally, non-governmental organizations (involved directly or indirectly in forestry or forestry issues) are of the following types:

(1) Non-registered, non-corporate bodies
(eg: numerous rural and tribal development groups, viz. "Vidushak Karkhana", Shahdol, (M.P.))

(2) Registered, non-corporate bodies
(eg: Seva Mandir, Udaipur).

(3) Registered corporate bodies, under the Societies Registration Act, 1860.
(eg: Centre for Environmental Education, Ahmedabad).

(4) Registered corporate information and consultancy Bodies.
(eg: Environmental Service Group, New Delhi, Centre for Science and Environment, New Delhi).

(5) Educational institutions, registered under Societies Act, 1860.
(eg: Gandhi Peace Foundation, New Delhi).

(6) Companies, registered under Companies Act, 1956
(eg: United Land & Housing Ltd., New Delhi).

(7) Industries, registered under the Industries Act, 1951.

(8) Cooperatives, registered under the Cooperative Societies Act, 1912.

(9) International Funding Agencies, registered under the International Finance Corporation Act, 1958, International Development Association Act, 1960, or some cognate Act.
(eg: Swedish International Development Association)

Functionally, one can discern three types of NGOs involved in forestry:

(1) those directly involved in the field in either plantation or allocation of benefits from plantations;

(2) those directly involved in providing information and expertise; and

(3) those directly involved in either funding the plantations or the expertise. As we shall see, the legal issues related to these different functions and the various types of NGOs vary in their nature and scope.

The Extent and Nature of NGO Participation

Before getting into the details about the legal aspects of NGO efforts in forestry, it will also be necessary to be aware of the number and the type of non-government efforts under consideration.

The number of non-registered, non-corporate, and registered corporate voluntary groups in India actively interested in forestry is larger than any Third World country. It would run into thousands. These groups, especially those working in rural and tribal areas, are of four major kinds: charity and relief groups, development groups, action groups and support groups

(professional associations). It must be noted, however, that although large in number, the overall involvement of such groups in actual plantation has been meagre as compared to those of a few private companies. This is mainly because such groups do not have the financial resources required for large-scale forestry. The impact of such microgroups, however, need not be obstacles that must be overcome.

The number of registered companies that have gone into farm forestry is as yet only a handful. But since they have abundant financial resources their impact is large. Companies, such as "Marudhar Farms Ltd" and "United Land and Housing Ltd", have successfully attracted a significant volume of public finances through debentures and shares and have bought or leased private land for forestry. Often these lands are fertile agrarian lands. The legal issues raised by such enterprises pose a different type of problem.

By and large, forestry in India has been the domain of the forest departments. Non-governmental organizations have not been directly involved in large scale afforestation. However, in some forestry programmes supported by international agencies, such as SIDA, local involvement has been sought. But in such cases too, the allocation of funds and the monitoring of the programmes is done through the local Panchayat and the forest departments. The village cooperatives or committees work under the authority of the forest department officials. These committees or cooperatives do not, therefore, constitute what can truly be called NGOs. Almost all social forestry, consequently, has been state forestry. Since the village cooperatives or committees (of the kind supported by SIDA in Tamil Nadu, Orissa and Bihar) are in fact extensions of the state organization, they do not face the legal problems of the type which totally voluntary NGOs do. There are, however, a few totally voluntary organizations such as in Tamil Nadu and Gujarat who have succeeded in afforesting common lands, due to the incentives provided by the funding agencies. Their number, however, is still very meagre.

Legal Provisions Relating to NGOs

Forestry, whether for protecting trees or for planting new ones, at once brings into play a whole range of diverse laws. Besides the forest laws, it directly or indirectly involves laws pertaining to land acquisition, reform, development, grants, tenure, ceiling, and other cognate land related laws. The labyrinth of these laws, ordinances, rules and standing orders create a complex network of rights, obligations and entitlements pertaining to the management or administration of forestry. Any NGO which involves itself with forestry will confront this legal complexity at one stage or another. Besides these land and forest related laws there are other laws governing the activities of corporate or registered groups; these would apply to the NGOs too. For those engaging in litigation, there are numerous laws and rules concerning procedures. Documentation of all laws and rules relating to the NGOs actually or potentially involved in forestry can run into several volumes. Only some very pertinent laws and rules will be mentioned here.

(1) The Indian Forest Act, 1927: In general, the Indian Forest Act is meant to give powers to the government to proclaim sovereignty over forests and to administer control over them; there are a few sections, however, which allow the possibility of NGO participation:

A. Section 38K of the Act gives permission to the Forest Department to lease out to the local people land within its jurisdiction for the purposes of cultivation; this includes forest cultivation.

B. Section 80(b) allows management of existing forests or of new afforestation programmes, by any person or group, but they must be undertaken in accordance with government regulations.

(2) State Forest Acts: Each state has its own Forest Act, besides the Central Act. In the exercise of the powers derived from these State Acts numerous Board Standing Orders are passed. Many of them allow village committees and individuals to take up forestry on their own. One such standing order, for example, is the Notification (No:16374/FFAH) issued by the Forest, Fisheries & Animal Husbandry Department, Orissa, in the exercise of the powers conferred by Section 31, 32(d) and 82 of the Orissa Forest Act, 1972. The State departments are empowered to issue notices for NGO participation.

(3) Societies Registration Act, 1860: This regulates the organisational aspects of NGO's work. It requires a minimum of seven people to form and regulate the work of the society. They are accountable for auditing purposes. Registration as societies is often necessary for being able to receive funds.

(4) Cooperatives Society Act, 1912: Regulates formation and working of cooperatives. Agriculture cooperatives are unlimited and without liabilities. They can generate their own funds, as well as receive funds from Cooperative Banks and other nationalised banks.

(5) Foreign Exchange Regulation Act, 1973: It is essentially meant to regulate the business transactions of non-resident Indians, business and trade houses. But it also encompasses foreign funds received by NGOs. Under the Act, the Government has the power to deny the reception of foreign funds to any NGO if it finds sufficient evidence that the funds are being used for purposes other than the proclaimed one, or if there is any danger to the internal security or welfare of the country. The Act also requires that those receiving foreign funds maintain a separate bank account of the money so that the government can verify the expenditure when required.

Besides these some important Central Acts which relate in one way or the other to the activities of the NGOs are as follows:

(6) Charitable and Religious Trust Act, 1920.

(7) Charitable Endowment Act, 1890.

(8) Companies Act, 1956.

(9) Industries (Development & Regulation) Act, 1951.

(10) International Development Association Act, 1910.

(11) International Finance Corporation Act, 1958.

(12) International Monetary Fund and Bank Act, 1945.

(13) Inter-State Corporation Act, 1957.

(14) Multi-State Cooperative Societies Act, 1984.

(15) Multi-Unit Cooperative Societies Act, 1942.

(16) National Cooperatives Development Act, 1962.

(17) Public Financial Institution Act, 1983.

(18) Registration Act, 1908.

(19) Religious Endowment Act, 1863.

(20) Religious Societies Act, 1880.

(21) Seeds Act, 1966.

(22) Trust Act, 1882.

Besides these Central Acts, the Land Assignment and Development Acts of various states are of relevance in the context of NGO participation. Many of these Acts, such as the Kerala Land Development Act, 1964, for example, provide for the constitution of Land Development Boards. These Boards are supposed to work towards the improvement of land, including forestry on it. These Boards, by law, allow for the nomination of four non-official members. This can include members of the NGOs. At present, by and large, the Boards are dysfunctional and appropriate non-officials are rarely appointed as members. But this need not necessarily be so. Vigilant NGOs can activate the Boards by their interventions; they can also legally participate in the Boards' land development programmes.

Locus Standi of the NGOs

The first question in relation to the NGOs is: can they take up their grievances or demands to the courts, and if so, in what capacity? As noted, the micro, registered and non-registered groups often need to intervene in various forestry projects when issues of allocation of benefits, land rights and users rights are involved. Sometimes they also have to make claims for entitlements and occupancy rights on behalf of the underprivileged classes. Some case-profiles where NGOs have undertaken such tasks will be discussed later, here the legal point needs to be noted.

Prior to the Public Interest Litigation cases, the NGOs had no legal capacity to take up cases on account of infringement of rights of others. In fact, the Indian law did not permit the casually non-affected or uninvolved party to take up a case for the affected party. But after Mumbai Kamgar Sabha v. Abdulbhai (1) case in 1976, the legal situation has changed. The law concerning status and capacity for action has been evolved through case law alone. The criteria was defined explicitly in Fertilizer Corporation Kamgar Union v. Union of India (2), and further elaborated in S.P.Gupta v. Union of India (3). In accordance with this case law, any non-government organisation

or individual can move to the High Court under Article 226, and the Supreme Court under Article 32 of the Constitution. The courts would entertain litigation under the following conditions:

(1) It can include any legal wrong or injury or illegal burden caused or threatened (this need not necessarily be confined to the violation of fundamental rights).

(2) The affected party may either be a person or a determinate class of persons who by reasons of poverty, helplessness, disability, or socially or economically disadvantageous position, cannot themselves claim relief before the courts.

(3) The High Court can be moved for the infraction of any right; the Supreme Court can be moved for violations of fundamental rights only.

(4) The Court can issue any direction, order or writ for the redressal of grievances. (They may include directions for affirmative action and continuous monitoring).

(5) The Courts can accept even an ordinary letter or a press note as a writ petition for purposes of action.

So far the NGOs have moved the Courts successfully for various types of reliefs; this includes: reliefs for undertrial prisoners in jails, amelioration of the conditions of detention in protective homes for women, for medical check-up of remand home inmates, for prohibition of traffic in women and relief for their victims, for the release of bonded labour, for proper minimum wages, and prohibition of employment of children. Environment related litigation by NGOs has, so far, been mainly for the protection of natural resources (flora and fauna) and for proper rehabilitation of those affected by projects pertaining to afforestation, irrigation, and hydroelectric power. The expansion of farm forestry (for industrial purposes) by private companies, has now turned the NGOs attention towards injustices caused by usurpation of common lands by the companies. The "Sharavati Valaya Yurajana Okkoota" of Sasarvalli and the "Vriksha Samrakshana Vedike" of Sagar, in Karnataka, for example, have filed writ petitions against a Birla group of mills engaged in forestry on village commons. The Karnataka High Court accepted the locus standi of these NGOs in accordance with Article 226 of the Constitution.

Cases raising issues of locus standi of the NGOs have often revolved around Article 14 and 21 of the Constitution. In such cases, Article 21 (the right to life) has been interpreted as the right to livelihood, and the NGO's role as that of seeking and protecting the right to livelihood of the affected people. Notable amongst such cases are the Bandhua Mukti Morcha case (4), the Machu Dam Disaster case (5), the Dun Valley case (6), and the Slum Dwellers case.

Legal issues concerning companies and other similar registered bodies do not usually raise problems concerning locus standi, because such companies usually take up the case on their own behalf and not for others.

Access to Law

The Court's acceptance of the locus standi of the NGOs is indeed a progressive step, in so far as access to law is concerned. But, evidently, this by itself is grossly inadequate for taking up matters of injustice or mal-administration to the Courts. It is so because, besides legal status, there are various facilities and inputs required to enable an NGO to avail itself of the benefits of law.

The following two diagrams graphically illustrate what is actually required and the present situation. The left and the right columns in the diagram indicate the inputs required, and the central column represents the process of litigation. By "environmental information" is meant the knowledge of the ecological and the socio-economic conditions of the case; by "legal information" knowledge of the legal provisions, precedents, and the legal procedures. The rest is self-explanatory.

DIAGRAM A

	Judgements	
Court fees		Legal Opinion
	Courts	
Lawyer's fees		Legal Information
	Lawyers	
Financial Aid		Environmental Information
	NGOs	
	Local People	

DIAGRAM - A: Requirements.

= Required

DIAGRAM B

Judgements

Court fees

Legal Opinion

Courts

Lawyer's fees

Legal Information

Lawyers

Financial Aid

Environmental Information

NGOs

Local People

DIAGRAM -B: Present situation

= Required

= Required but not available.

Diagram B makes it evident that amongst the major reasons why NGOs do not usually have access to law are lack of legal information and lack of sufficient finance to get the services of good lawyers. The lawyer, on his part, usually lacks environmental information. The non-availability of legal services to the NGOs is not peculiar to them, it is true of all underprivileged people in India. To partly remedy the situation, the Courts in India have instituted an extensive service of legal aid which is meant specifically for the underprivileged; it includes aid for litigation for environmental causes. NGOs have made use of the legal aid service very scarcely. This is mainly because they have, as yet, very little or no information about legal aid. However, since the legal aid provisions are applicable to the NGOs, it will be important to mention it in some detail. For both the improvement of the Indian legal system and for their own benefit,

the NGOs should make as much use of the legal aid services as possible. As we shall see the newly constituted Legal Aid and Advice Boards provide very comprehensive services.

Legal Aid

(1) Basis: Article 39(A), inserted by the Constitution (Forty Second Amendment) Act, 1976, provides that the states shall secure that the operation of the legal system promotes justice on a basis of equal opportunity, and shall, in particular, provide for free legal aid to ensure that the opportunities for securing justice are not denied to any citizen or group for reasons of economic or other disabilities. To implement this directive, the government has recently instituted a Legal Aid & Advice Board in every State and Union Territory. It is instituted in the States vide Entry 3 of the State List of the Constitution, in the Union Territories vide Entry 77, 78; and again, in accordance with the Concurrent List, Entry: 2, 11A, 13, 20, 23, 24 and 26.

From 1976 until now legal aid services has seen various ramifications. The case law for extended services has been built up through numerous cases, notable amongst which are: R.M. Wasawa v. State of Gujarat (8), M.H. Hoskot. v. State of Maharashtra (9), and Hussainara Khatoon. v. State of Bihar (10).

Legal Aid can be obtained for criminal litigation under Section 304 of the Criminal Procedure Code; for civil litigation under Order 33; Section 1A, 9A and 10, of the Civil Procedure Code 1976 (Amended); and for violation of fundamental Constitutional rights, such as of Articles 14 and 21.

(2) Services Available: The Legal Aid & Advice Board of each State and the various "Committees for Implementing Legal Aid Schemes", set up by the Boards perform the following tasks, besides giving direct financial aid to the deserving (11):

A. encourage and promote conciliation and settlement in legal proceedings;

B. promote legal literacy and create awareness amongst the weaker sections of the community in regard to the rights, benefits and privileges conferred upon them by social welfare legislation and other enactments;

C. enlighten the people in rural areas about agrarian reforms and facilities made available to them by the Central Government or the State Government from time to time and render legal services where necessary;

D. arrange for publicity of important legislation concerning women, bonded labour, industrial workers, agricultural labour, tenants, agriculturists, Scheduled Castes and Scheduled Tribes and other weaker sections of the community, and also legislation dealing with social and economics reforms;

E. render assistance to the members of the weaker sections of the society in complying with necessary legal requirements in order to secure the benefits under the various schemes sponsored by the Central or the State Government for the welfare of the public in general, or of any section thereof;

F. organise legal aid camps for the purpose of reaching legal services to the weaker sections of the community in rural areas and in slums;

G. arrange for holding Lok Nyayalayas in different areas for the purpose of bringing about voluntary settlement of disputes;

H. prepare a cadre of social workers for paralegal services;

I. help the various committees to set up legal services centres within their respective jurisdictions;

J. encourage law colleges and law faculties of Universities to set up projects for giving free legal service to the weaker sections of the community and to help them in running such projects:

(3) Eligibility for free legal aid:

A. Every citizen whose income from all sources does not exceed Rs. 6,000 per annum shall be eligible for free legal services.

B. This limitation as to income shall not apply in cases of disputes where one of the parties belongs to Scheduled Castes, Scheduled Tribes, Vimukta Jatia and Nomadic Tribes or is a woman or a child.

C. The Board and the Committee constituted by it may suo motu or on an application made in that behalf the opposite party, withdraw the grant of free legal services to an aided person, if it is found that such person has adequate financial resources to meet the cost of such legal services.

D. Notwithstanding anything contained herein, the Board may itself initiate proceedings or grant aid

a. in case of great public importance; or

b. in a test case the decision of which is likely to affect cases of numerous other persons belonging to weaker sections of the community; or

c. in a special case which, for reasons to be recorded in writing, is considered otherwise deserving of legal aid.

The Rs. 6,000 criterion is a guideline for the courts, it is not meant to be absolute. To determine the eligibility and the amount of financial aid required, the courts usually use three tests:

a. The means test: takes into account a persons or groups disposable income and disposable capital assets to determine financial qualification

b. The prima-facie test: a screening method to evaluate whether the case is genuinely worthwhile to receive legal support

c. The reasonableness test: to weigh the social and economic worth of the possible outcomes of litigation.

(4) Modes of Legal Aid: Legal aid may be given in all or any or more of the following modes, viz.,

A. payment of court fees, process fees and all other charges payable or incurred in connection with any legal proceedings;

B. representation by a legal practitioner in legal proceedings;

C. obtaining and supply of certified copies of judgements, orders and other documents in legal proceedings;

D. preparation of an appeal paper book, including printing and translation of documents, in legal proceedings.

Alternative Legal Options: Some Case Profiles

1.0 The governments' social forestry programmes have all aimed at helping the economically weaker sections of the population, by providing them fuel, fodder and timber. But it is on record that almost all such programmes have fared miserably in achieving their purpose. The reasons for this failure are twofold, both relate to a misunderstanding or blindness towards the legal aspects which necessarily enter into any afforestation programme. The first concerns the existing legal provisions of usufructory rights, such as in tree tenure and land tenure laws pertaining to the local people; and the second concerns the laws pertaining to the organisational set up, vis-a-vis the government officials, the local people and the local NGOs.

Social and economic plans for afforestation are thus made which are totally ignorant of the people's rights and the organisational provisions. They do not stop to think whether the existing legal conditions allow the possibility of achieving the assumed goals of social forestry. The legal appraisal must evidently be done before the implementation of the programmes. The existing conditions and the desired legal amendments must be considered as an essential variable at the plan formulation stage itself. Simple as this point may be, it does not seem to be known to the Social Forestry Wings of the Forest Department or to funding agencies such as SIDA and the World Bank. In their various post-facto Appraisal or Monitoring reports these departments and agencies record the fact that the benefits of the programmes are not reaching the people for whom they were intended. Obviously, by and large, the usufructory rights, tree and land patta laws and those concerning organizational set up, are not of a type which will allow such percolation of benefits. These need to be seriously considered and reformed before further

afforestation programmes are designed. Let us turn to see now what legal options these laws provide to the local individuals and organizations.

2.0 Hitherto, social forestry has mainly been a state enterprise. In some states, such as in Tamil Nadu, Orissa and Bihar, village committees have been set up in collaboration with the Panchayat and the forest officers. There are no enacted laws as yet for the existence or working of such village committees. They work mainly on the basis of Board Standing Orders, which are ad hoc administrative rules. These rules are voluminous and complex. They relate to land leasing and contracting conditions, tree patta (tenure), organizational and revenue matters (13).

2.1 Social forestry through village committees has been done mainly on common lands, especially around ponds and on canal embankments. Example of one such NGO which works under the consultation and regulation of the Forest Department, and which has achieved some degree of success is the Bhagavatula Charitable - Trust (BCT) in Yellamachili in Andhra Pradesh. BCT has worked on social forestry projects in Panchadrala, Gouikada and Karipuram villages. Seven women's organizations and nine youth organizations have reforested the hill slopes with coconut and cashewnut trees.

Despite this initial success of the BCT's programme, the long term maintenance of the forests is not assured, nor is the fact that the returns will finally go to the economically backward. They perceive it merely as a temporary employment opportunity. About 125 agricultural labourers are employed in the rainy seasons by the BCT to work on these wasted common lands. The reason why the life of the trees and the benefits to the backward classes are not assured is simply that the legal arrangements (tree patta and the land tenure) are not of a type that will allow this. The long term land or usury rights are just not vested in the local people by the Forest Department. By and large, the Department merely uses the local people as paid labourers, with the NGOs as intermediaries to safeguard the Department's interests.

2.2 The BCT situation is an example of numerous government-aided NGO works in other states. The common lands on which the Forest Department carries out its afforestation programmes are usually also the grazing lands for the villagers. The commons are afforested without providing alternative fallows or grazing land. A common afforested land becomes more attractive for grazing purposes than for environmental concerns of forestry. If forestry is to be carried out on common wastelands, laws concerning user rights on commons need to be seriously modified. The leasing, contracting and tenure rights need to be drastically altered if the NGOs are to participate in forestry. As the laws presently stand they favour regulation and authority of the government forest and land revenue departments, not the participation of the local people. Land and forests are state subjects, the problems differ from state to state; these issues are complex, hence, they cannot be entered upon here (the central focus of the paper being NGOs). However, this general inhibitory characteristic of the laws needs to be noted.

3.0 A legal situation, having similarities with the BCT work, but different from it, is the afforestation programme in the Mathwad forest range, in Jhabua district in Madhya Pradesh. Here the Forest Department inducted the tribals into afforesting denuded forest lands. No special user right was invested in the tribals over these newly planted forests. Most of these rights have, anyway, been annulled by the Indian Forest Act, 1927. The tribals who have worked as paid labourers for this forestry programme do not have any likelihood of further gains. The Anand Niketan Ashram of Ali Rajpur (M.P.) has been waging a legal battle to secure the rights of the tribals, but without much success so far (14).

3.1 A more successful legal intervention to save the common land in favour of the local people has been the litigation taken up by the "Sharavati Valaya Yuvajana Okkoota" of Sansaravalli and "Vriksha Smarakshana Vedike" of Sagar, together with the villagers from Malla, Hamsagaree, Talavata, Archadda, Bachagaru, Koralagundi, of Sagar Taluk, Shimoga district in Karnataka. They are being assisted in their endeavour by the "Keshava Shilpa" of Kempegowda Nagar, Bangalore, and the "India Development Service International", Dharwad. The Karnataka High Court has ordered emergent notice to the State Government on account of the writ petition filed by the petitioners under Article 226 of the Constitution. The petitioners protested against the diversion of 70,650 acres of "C" and "D" class land, earlier reserved for the common use of the rural people, for commercial use; under an order by the Deputy Commissioner, Shimoga district. The petitioners have also challenged the agreement between Karnataka Forest Plantation Corporation and M/s. Harihar Polyfibres, to promote a joint-Sector undertaking called "Karnataka Pulpwood Ltd", for growing eucalyptus in 30,000 hectares of "C" and "D" class lands in Sagar, Shimoga and Bhadravati Taluka of Shimoga district and Chikmanglur Taluka in Chikmanglur district. The case is sub-judice, the Court is still to deliver its final judgement (15).

3.2 It must be noted that this is not the first time that takeover of village commons by the Government, in favour of the industries, has been resisted by non-governmental agencies. Innumerable protest meetings have been held all over Karnataka during this year to save the village commons in favour of the local need. "Mannu Rakshna Koota", the "Rajya Rita Sangha", the "Federation of Voluntary Organizations for Rural Development" in Karnataka, the "Karnataka Sarvodya Mandal", the "Transnational Centre for Non-violent Social Change", the "Karnataka Unit for Citizens for Democracy", the "Friends of Trees Society", Bombay, are amongst the NGOs who have taken up the cause. It is important to note, however, that while these various protest meetings have mostly used pressure tactics, the Shimoga - Chikmanglur case is the first one to take recourse to law. Its outcome will be legally and politically significant.

4.0 Before concluding this section it will be important to consider a different type of legal alternative: namely, the formation and working of village cooperatives. Village cooperatives for forestry are as yet rare. The more usual ones are for fisheries, agriculture, and handicrafts. But legally forming and activating such cooperatives is not impossible. In fact, for some purposes this may be a more practical or feasible strategy. The implications must be considered.

Formation of cooperatives is sometimes essential both for the creation of funds and for the proper management of an enterprise. Legally, under the Cooperative Societies Act, 1912, two kinds of cooperatives can be formed; those with liability (limited) and those without liability (unlimited). Under this Act all cooperatives for agricultural purposes are without liability. The Act does not define "agriculture" or "plantation". Plantation for forestry purposes can hence be included within the scope of the Act. Just as fishermen can form cooperatives it is legally possible to form cooperatives of carpenters (Kamars) in the rural area for the purposes of forestry. This may serve the local need in a more practicable way. Although this is legally feasible, such cooperatives have not been tried so far.

4.1 The "cooperatives" that have sometimes been formed for forestry purposes clearly violate some of the basic principles of cooperative formation and operation. One such example is the Illithode experience of Manjapra village, in Ernakulum district, Kerala. Natural forest in the area was totally denuded by the Forest Industries of Travancore by the early 1960s. After two land use programmes, one in 1965 by Ficto Chemicals and the other in 1969 by the Forest Department, the Government decided to give up and opt for cooperative farming scheme in 1971. In its aims the scheme was laudable; land was leased only to Scheduled Caste landless people who resided in the district. The administrative and legal set up, however, was anything but conducive to cooperative farming. The cooperative was governed by a Board of Directors, amongst whom were government officers from the Agricultural Ministry. The land was leased on a short two to three year basis, the benefits were usurped by the Agriculture Ministry, only wages (Rs.50 a week) were given to the farmers. Such "cooperative" farming, in which all decisions are made at the top by officials and benefits not equitably distributed to those who actually work on the farms, amount to nothing but utilization of cheap labour and a new type of Zamindari, albeit the state is the new landlord now. The Illithode experience is enough to show that cooperative farming can be self-stultifying unless the land leasing, tenure and user rights are made out in a way which results in equitable distribution of the gains (16).

4.2 There are various alternative legal options, as these examples show. Since the demographic, socio-economic, political and legal conditions vary from state to state, no general principle can be worked out. In each case, when a social forestry programme is planned, a legal appraisal of the area must be first done to find out the best-fit modalities for planning and implementation. The planners in India are oblivious to the existing legal realities.

Conclusions: Problems and Some Solutions

The following two tables summarise some of the major problems that the NGOs involved in forestry presently face or are likely to face. They also indicate some necessary solutions.

TABLE = 1

Required	Availability	
	Corporate NGOs (Companies)	Non-corporate NGOs
Legal information		X
Environmental information	X	
Access to Law		X
Financial aid		X
Role in decision making	X	X
Lawyers		X
Access to land	X	X
Financial support for forestry		X
Role in evaluation and monitoring	X	(Unofficial)

= Not available

= Available

TABLE = 2

Problems for non-corporate NGOs	Reasons	Possible solutions
Lack of legal information	Laws & rules not publicized	Starting a legal information & consultancy resource centre by some NGOs
Non-availability of lawyers	i) high fees ii) lawyers not acquainted with environmental problems	i) seeking Legal Aid. ii) starting environmental law training courses by some institutions.
Little role in decision making	Laws which allow involvement of local people and NGOs in decision making processes not known to them	i) publicity of such laws ii) more active participation by the NGOs for utilizing the provisions of laws
Little access to land	Most common & denuded forest land under governmental control	i) Utilization of Section 38K and 80 of the Indian Forest Act by the NGOs for forestry on "forest land" ii) Legal assertion by NGOs for local rights over common lands iii) participation in the official programmes for forestry, through village-committees, cooperatives etc.,vide Board Standing Orders

It would be evident from the foregoing account that presently there are numerous problems in the involvement of NGOs in forestry. This is mainly because the laws related to forestry are of an earlier era in which forestry was solely a state enterprise. The new programmes and policies, however, are seeking to operate with aims which are different from those of the laws. Major amendments in forest laws, therefore, are inevitable in the near future. The government is already contemplating this. It is also bringing out a new forest policy in the near future which departs in some significant ways from the earlier policy, insofar as the involvement of the local people and the NGOs are concerned. The policy will form the grounds for a new law. In the light of this, NGO participation in forestry must prepare itself for the new demand that is being made on it and is likely to be made more stringently in the coming future.

FOOTNOTES

1. All India Reporter (A.I.R.), 1976. S.C. 1465

2. A.R.R. 1981. S.C. 344

3. A.I.R. 1982. S.C. 149

4. A.I.R. 1984. S.C. 802

5. A.I.R. 1984. S.C. 652

6. Rural Litigation Entitlement Kendra v. State of U.P. A.I.R. 1985. S.C. 652.

7. Olga Tellis v. Bombay Municipal Corporation A.I.R. 1986. S.C. 180

8. A.I.R. 1974. S.C. 1143

9. A.I.R. 1978. S.C. 1548

10. A.I.R. 1479. S.C. 1369

11. In accordance with the decisions taken by the "Committee for Implementing Legal Aid Schemes" (CILAS), of the Supreme Court of India, at its 23rd and 27th meetings. For details of the proceedings of the meetings, see the papers at the Legal Aid Cell, Supreme Court of India, New Delhi.

12. For details see: "The Report of the Legal Aid Committee" (Government of Gujarat) 52, (1971). Also, "Report of the Preparatory Committee for Legal Aid Scheme", (Government of Madhya Pradesh) (1982).

13. Most environment related Central and State legislations in India are not, what are technically called "primary regulatory" laws; that is, they do not straight away specify the regulatory laws. By and large they are "secondary power conferring" laws; that is, they provide for the setting up of various Boards and Departments, who in turn have the power to make rules. These executive orders passed or notified by the administrations in fact become the primary laws in operation.

14. The Indian Law Institute, New Delhi, had carried out an area survey of the Ali Rajpur taluka (M.P), in one of its earlier projects. For details see: Chhatrapati Singh et.al., Wasteland Development and the Law, Indian Law Institute Publication, New Delhi-1986.

15. For a detailed account of the issues concerning rights on commons in India see: Chhatrapati Singh, Common Property and Common Poverty., Oxford University Press, New Delhi, 1986.

16.Cooperative farming in Illithode, Kerala was investigated by the Indian Law Institute. For details see: Wasteland Development and the Law, Supra.n.14.

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SOCIAL FORESTRY AND WASTELAND DEVELOPMENT

GOVERNMENT POLICIES AND PROGRAMMES

Thilaka Baskaran
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It is fashionable today to talk of the crisis of deforestation in macro terms. The fact that our forest cover has been reduced to a little over 10%, and the belief that it ought to be at least 33%, are often repeated. Despite their importance, we don't believe they even begin to express the real crisis of deforestation. The real tragedy of deforestation can only be understood in terms of specific cases of families and villages struggling for survival; of communities fading away and of age-old life-styles being abandoned out of necessity, perhaps forever.

The first level of the crisis can be seen as shortage of fodder and fuel, dried up streams and wells, flooded villages and fields and eroded hillsides. These are visible starkly, if one cares to look. The second level is the ecological deterioration of our ecosystem, loss of genetic diversity, erosion of land's ability to regenerate its vegetative cover and perhaps irreversible climatic changes. These are less visible symptoms of the crisis, but for that no less dangerous. There are, of course, also the needs of industry and the rural and urban rich for timber, firewood, paper, plywood and other forest based materials.

In brief, then, any policy or programme of the government must seek to tackle at least these three aspects:

1. Provision of basic necessities like fuel, fodder, water and a regenerative microenvironment for the rural poor.
2. Protection of the macro and micro ecosystem.
3. Provision of raw materials for industry and consumer items for the rural and urban rich.

The Context

To work towards these objectives, government policy must incorporate strategies to achieve:

a) Conservation of the existing forest resources
b) Regeneration of degraded forests
c) Afforestation of barren areas
d) Equitable distribution of the benefits of the forests among various segments of the society.

The Strategies

1) Conservation: Basically the government sought to conserve forest resources mainly through classifying forest areas as reserve forests, protected forests and as national parks and sanctuaries.

Essentially this was, at least when it was formulated, a policy aimed at "protecting" the forest from rural communities by denying them the use of these forests. The interaction of the local communities with the forest was considered illegitimate, while the use of forest resources by the State was seen to be legitimate.

Efforts to appease the demands of the local communities for forest-based products were usually made through creating Panchayat forests or giving limited forest rights to villages. This, therefore, set the basis for the conflict between the community and the State over forest resources: a conflict that is being increasingly blamed for much of the degradation.

With the growth of forest-based industries and the mushrooming of urban demand for firewood and other forest-based commodities, especially after independence, a new system had to be evolved where forest resources could be diverted to industry mainly for urban consumption, while being denied to the local communities.

The forest working plans and tenets of scientific forestry were effectively used for this purpose. Large tracts of forest were opened up for clear felling and hundreds of square kilometres were leased out to industries for "working".

Another effort at conservation was the passing of the Wildlife (Protection) Act of 1972. Under this act over 300 National Parks and Sanctuaries have been created in India. This act seeks to provide to these areas a basic level of protection. In practice, however, most of these parks and sanctuaries are as degraded as the forest outside. Tree felling and legal or illegal grazing goes on in most of them and the protection offered is often only on paper.

The next serious initiative was taken after the report of the National Committee on Agriculture (1976). This committee, remarking on the rampant denudation of forests, recommended that the system of involving contractors in the felling of trees should be immediately stopped. As a result of this recommendation, the "contractor system" was phased out gradually and replaced by State owned Forest Development Corporations. However, in most areas this did not result in a greater level of protection. In fact, the same contractors now became agents of the government and continued working as before. In some places the take over of forest-working by the corporation meant that forest produce became even more scarce and expensive for the rural poor and the artisans. (See, for examples, Bharat Dogra's paper in this volume.)

In 1980, the Government of India promulgated the Forest Conservation Act, which prohibits the transfer of any forest area for non-forest use by any State Government without prior clearance of the Government of India. This act can be seen as an effort of the Government of India to do something about the rapid depletion of forest cover in the states. It can also be seen as an unrealistic attempt by a macro body to try to control micro bodies from deforesting, without doing anything about the pressures that initially lead to this deforestation. It might also be noted that this act, at the best of times, only seeks to prevent the transfer of forest land for non-forest uses. It, in no way, seeks to prevent the cutting down of forests on forest lands.

Perhaps it is enough to state that current statistics show that we are losing 1.3 million hectares of forests each year, and have perhaps lost nearly 20 million hectares since independence. The effectivity of these conservation measures can, thus, be determined from these statistics.

2. Regeneration and Afforestation: The major responsibility for regeneration and afforestation rested, till recently, with the Forest Department. Working plans, based on principles of scientific forestry, were supposed to ensure that no forest was denuded beyond its regenerative capacity. In addition, forest departments also had working plans for systematic plantation of forests. From 1951 to 1980, according to government figures, a total of a little over three million hectares of forests were planted. In this period we probably lost, as stated earlier, nearly 20 million hectares.

The National Commission on Agriculture also recommended the starting of social forestry programmes aimed at providing for the needs of rural communities. Subsequently, the government started Social Forestry Plantations in most states and these programmes are being significantly supported by international donor agencies. By now it has been widely recognised that much of this effort did not benefit the rural poor, and in many cases was actually detrimental to the environment.

There were many problems with the way in which this programme was implemented. The two most significant faults seem to be the non-involvement of the local community in these efforts and the choice of tree species, especially eucalyptus, which have little to offer the villager and are often harsh on the water table and some other aspects of the microecology.

In 1985, the Government of India set up the National Wasteland Development Board with the target of planting five million hectares per year. There was also a reiteration of the resolve to involve the people in this effort. Perhaps it is yet too early to evaluate their work.

In 1985-86 the National Wasteland Development Board gave the following grants to NGOs:

RAJASTHAN:

1.	Sewa Mandir, Udaipur	Rs. 4,25,000
2.	Ubeshwar Vikas Mandal, Udaipur	Rs. 7,75,200
3.	Sanjeev Sewa Samiti, Udaipur	Rs. 5,24,700
4.	Sarva Seva Farms, Udaipur	Rs. 5,98,000
5.	Sewa Mandir, Udaipur	Rs. 13,93,000
		Rs. 37,16,740

UTTAR PRADESH:

1.	Banwasi Seva Ashram, Mirzapur	Rs. 2,30,000
2.	Banwasi Seva Ashram, Mirzapur	Rs. 1,25,000
		Rs. 3,55,000
		(Rs. 9,35,000)*

BIHAR:	
1. Gram Bharti, Sarvodaya Ashram Simutala, Bihar	Rs. 3,76,000
	(Rs. 4,06,500)*
ORISSA:	
1. Gram Vikas Mohuda, District Ganjam	Rs. 1,68,500
2. PREPARE	Rs. 15,500
	Rs. 1,84,000
MAHARASHTRA:	
1. Bharatiya Agro Industries Foundation, Poona	Rs. 22,05,000
2. Rural Agricultural Institute Poona	Rs. 12,000
	Rs. 22,17,000
ANDHRA PRADESH:	
1. Bhagvatula Charitable Trust, Vishakapatnam	Rs. 1,88,364
2. CROSS, Hyderabad	Rs. 45,000
3. Samajika Vikasa Kendra, Ernakulam	Rs. 3,01,000
4. Rural Development Society Palasa	Rs. 83,000
	Rs. 6,17,364
GUJARAT:	
1. Agha Khan Rural Support Programme, Ahmedabad	Rs. 5,20,926
	(Rs.12,53,300)*
TAMIL NADU:	
1. Anthodhaya Sang, Tiruchy	Rs. 48,200
MANIPUR:	
1. Manipur Adult Education for Development of Sericulture Plantations, etc., Imphal	Rs. 1,01,210
MADHYA PRADESH:	
1. Kasturbagram Krishi Kshetra, Indore	Rs. 1,07,000
DELHI:	
1. Society for promotion of Wastelands Development, New Delhi	Rs. 33,00,000

2. Centre for Science and Environment, New Delhi	Rs. 3,52,800
	Rs. 36,52,800

* Total amount to be released in installments.
** Grant released by Department of Environment, Forests & Wildlife.

3. Distribution: This aspect is perhaps the most neglected of the three. There are no significant laws or policies ensuring that the rural community gets its fair share of the produce of the forest. Even the traditional rights that were given under the forest settlement acts are most often not fully honoured. There have been numerous cases where poor artisans are either denied forest based raw materials, like grass or bamboo, or are charged many times the price that industries pay for the same products. Women, in some parts of the Himalayas, have to travel eight to ten hours a day to collect their daily requirement of fuel while large tracts of forest are clear felled for industrial and commercial use, and for a pittance.

The Dangers: Production vs. Distribution

Today the profits from fast growing species of trees are so high (advertised at 300% in a six-year period) that in theory, as also perhaps in practice, there should be very little problem in rapidly accelerating the production of bio-mass, be it eucalyptus or casurina or some other such. This is especially so if you compare it with the returns from agriculture (calculated as minus if you add the value of land, and in any case less than 10% per annum even otherwise).

In Punjab, for example, the forest department informed us that they were going to produce 3.5 crore saplings this year, mostly eucalyptus, and that a large proportion of this would be picked up by farmers who prefer to plant trees on their land rather than do food crop farming. The returns in Punjab even from the best irrigated lands were reportedly much higher from forestry than from the other prevalent crops. This syndrome is also common in many other states, notably Gujarat and Karnataka.

Presuming there is capital, and there is plenty available in the private sector for this high return activity, and presuming that the technology and manpower is available, which it is, then the only constraint on a "tree boom" is the availability of land.

According to various sources, there are over 100 million hectares of waste land available for plantation. All that is required is the green signal to swarm all over it. In fact, in some cases, private entrepreneurs have found novel ways of getting around the land ceiling acts by forming private co-operatives. Simultaneously, State Governments are encouraging the urban rich to invest in forestry (Maharashtra is perhaps an example). In Karnataka, Punjab and Haryana, among others, State Governments are collaborating with private sector companies (Harihar polyfibres and WIMCO) and giving them large tracts of land to afforest.

There are at least two major dangers in all this. First, these common lands are perhaps the last of the common property resource of the poor people of India. They are also perhaps the only resource which could be used, at the appropriate time, to help change the grossly inequitable distribution of wealth and sources of production. If this resource is to be opened up to the

urban rich and to the industry, what then would be left for the common man?

The scenario has similarities to the agricultural predicaments of the 1960s. However, forestry of this type is even more weighted in favour of the big farmer. This is primarily because returns from forestry plantations cannot be got before six years, and only the rich and big farmers can afford to wait that long.

Also, a deterrent to urban investment in rural agriculture was the law concerning absentee landlords which gave legal ownership of the land to those who cultivated it rather than to those who might have originally owned it. However, in forestry plantations, this danger is avoided as there is no long term use of labour. Therefore, there is no check on the flow of funds once this sector becomes fashionable.

The second danger inherent in the conversion of agricultural land to forestry concerns the decline in our foodgrain production. This would not only have serious repercussions on the political independence of the country, if it leads to our becoming deficit, but also threaten enormous displacement of labour.

Finally, it must also be recognised that mono-culture plantations of fast growing species cannot, and do not, replace natural forests, especially in terms of the ecological role that the latter play. At best these plantations, if properly implemented, could reduce some of the pressure on the remaining natural forests.

Regeneration of natural forests, therefore, must go hand in hand with afforestation programmes.

Conclusion

It is in this context that the current laws, policies and programmes of the government need to be understood and analysed. Without further comment we present below programmes relating to social forestry in some of the states.

SOCIAL FORESTRY AND WASTELAND DEVELOPMENT IN HIMACHAL PRADESH

Social Forestry (Umbrella) Project has been taken up in Himachal Pradesh, with assistance from IDA and USAID, at the cost of about Rs. 57 crores for a period of five years, co-terminus with the Seventh Five Year Plan period. The project has now been in operation for more than a year.

Components of the Project

The project has the following components:

1) Agro-forestry: This has further been sub-divided into (A) Farm Forestry, and (B) Private Wasteland Planting. The total targets under this programme are to the tune of 66,000 hectares.

A. The targets for Farm Forestry component for the project period are as below:

Year (1)	No. of seedlings to be distributed (2)	National Area in Ha (3)
1985-86	1.20 crores	800
1986-87	1.40 crores	9,300
1987-88	1.60 crores	10,400
1988-89	1.80 crores	12,000
1980-90	2.00 crores	13,300
	8.00 crores	53,000

In the Farm Forestry component, only seedlings are distributed to the farmers and they are encouraged to plant the same in their holdings. The price charged is ten paise per plant, which will be gradually increased. The choice of species is left to the beneficiaries.

B. Private Wasteland Planting: Under this component, planting is being done on the lands of individuals for raising fuel and fodder species. Such work is being carried out in compact areas of five hectares which are owned by not less than three owners, each having not more than two hectares. This is an anti-erosion measure also and its effect can be felt only after many such chunks of area are taken up for planting.

This programme has two alternatives. In the first alternative, the Department gives subsidy to the extent of 40% by way of fencing material and cost of plants, while in the second alternative, total cost has to be incurred by the Department. The income at the time of maturity has to be shared by Department and beneficiaries in the ratio of 1:3 in the second alternative, while nothing is to be retained by the Department out of the income in the first alternative.

In the original scheme, 500 plants were to be planted per hectare. But now the World Bank Mission has agreed to the planting of up to 1,100 plants per hectare. This may be considered as a deviation.

Targets under this component for various years are as below:

Year	Area in ha.
1985-86	2100
1986-87	2350
1987-88	2600
1988-89	2850
1989-90	3100
TOTAL	13,000

Tree Tenure for Poor and Landless (Group Farm Forestry)

Under this scheme, government land is given to landless/poor persons for raising plantations. The ownership of land remains with the government, and the right of use to the persons planting trees and taking up the activity. All the expenditure on such planting has to be incurred by the individuals. The government gives only necessary technical guidance and provides seedlings at concessional rates. The income at the time of final harvest will be shared by the government and the beneficiaries in the ratio of 1:3. There are some institutions like Mahila Mandals, Yuvak mandals, in existence in the State. They will also be involved in this programme.

The targets under this component for the project period are as below:

Year	Area in ha.
1985-86	60
1986-87	113
1987-88	200
1988-89	200
1989-90	260
TOTAL	833

Community Plantations

Community Woodlots-self-help: Under this scheme, plantations are being raised on government lands by the communities through Gram Panchayats, and the government will give assistance to the tune of 40% of the total cost in the form of inputs like seedlings, barbed wire. The protection will be the responsibility of the community and 75% of the income will go to the community, while 25% will be retained by the government.

The targets for various years are given below:

Year	Area in ha.
1985-86	100
1986-87	150
1987-88	200
1988-89	250
1989-90	300
TOTAL	1,000

Community Woodlots-Rainfed: Such plantations have to be raised on government lands by the community but the entire cost of planting has to be met by the government. The selection of sites will be done in consultation with the community. Right of usufruct will be kept intact as per provisions of the settlement.

The targets for various years are given below:

Year	Area in ha.
1985-86	6750
1986-87	7250
1987-88	8000
1988-89	8750
1989-90	9250
TOTAL	40,000

Departmental Plantation (Rehabilitation of Degraded Forests)

This has to be done in government degraded forests. Rehabilitation of degraded forests was previously being done under the centrally sponsored scheme for Rehabilitation of Degraded Forests. All the expenditure has to be done by the government and the choice of species has to be strictly in accordance with the needs of the people.

The targets for the project period are as under:

Year	Area in ha.
1985-86	750
1986-87	750
1987-88	1000
1988-89	1250
1989-90	1250
TOTAL	50,000

Fuelwood Saving Devices: There are many other ancillary items like fuel efficient chulhas, distribution of pressure cookers and construction of crematoria.

A few villages are to be selected where such activities can be executed in a concentrated manner so that there is an impact. The main emphasis has essentially been to get good success stories as examples for spreading the project. In the case of fuel efficient chulhas, the cost per unit is estimated at Rs. 75. The entire cost has to be met by the project. In case of distribution of pressure cookers, the subsidy is to the tune of 33% and the remaining cost has to be paid by the beneficiary. It is ensured that pressure cookers are given to only those families who construct fuel-efficient chulhas and contribute to the Social Forestry programmes by offering their land, and by joining in the community components mentioned earlier.

Method

At present, in Himachal Pradesh, TRUCO and T & V concepts are being followed in the field of extension. TRUCO means Trust and Confidence. By

contacting the people, a feeling of trust is created and, thereafter, this confidence is used to impart new ideas. In the case of T & V, the extension workers have to be constantly taught and thereafter, with additional knowledge, they visit the people in the field and impart to them the knowledge required. Problems are discussed and solutions are passed on to the people. A feedback is also got from the people to be passed on to the specialists. The technique being followed in Social Forestry is a mixture of these two concepts.

Holding of Informal Meetings: Repeated informal and formal meetings are held in each village. The target groups are (a) farmers having spare land fit for afforestation (b) members of Panchayats, Mahila Mandals, Yuvak Kendras, to make use of ex-shamlat lands or lands lying fallow and acquired by the government under the H.P. Land Ceiling Act. These meetings are held in the evening and the persons holding such meetings spend at least two days in each village. Efforts are made to select a few individuals who can act as motivators and co-ordinators for this programme.

Village Development Committees: Efforts are being made to constitute village development committees (VDC) for furthering the programme. The membership will be up to five members with three non-officials and two officials. Functions of the committee would be clearly defined. Selection of the members for VDC is to be done by the DFO concerned in consultation with the people. The VDC is an advisory and co-ordinating agency and the village motivators who will be appointed in due course will be the executing agency for the committee. VDC will be controlling the motivators.

Programme Execution: A Resource Management Plan is being prepared for each village. The work already executed in or around the village will be used for demonstration. Such demonstration areas will be in the form of nurseries or plantations. Informal meetings of the VDC and the motivators will be held in and around such areas. Thereafter, fresh areas have to be selected for nurseries and plantations and the work started.

Identification of Target Groups: Small and Marginal Farmers will be identified along with the village leaders capable of creating a sense of confidence among the people. This will include members of the Panchayat, Mahila Mandals, Yuvak Mandals, important shop-keepers, retired or serving government servants. The selection will depend on the composition of the people in each village and their aptitude for this work. Efforts would be made to involve all such leaders in both formal and informal meetings.

SOCIAL FORESTRY AND WASTELAND DEVELOPMENT IN MADHYA PRADESH FOREST DEPARTMENT

The plantation work proposed by the Madhya Pradesh Forest Department for 1986-87 is as follows:

HEAD	HECTARES
1. Economic Plantation	4,000
2. Mixed Plantation	3,000
3. Fuel Plantation	5,825
4. Environmental Plantation	600
5. Rehabilitating Degraded Forests	31,000
6. Soil Conservation	6,500
7. Social Forestry	9,975
8. Tribal Areas	7,200
9. River Valley	9,000
10. Fodder and Pasture Plantations	37,000
TOTAL	1,14,100

Of these, under rehabilitation of degraded forests (5 above), no plantation of trees is envisaged, however this area would be protected to allow regeneration. Under the head of Fodder and Pasture Plantation (10 above) only 1000 saplings per hectare (roughly half the normal amount) are expected to be planted. Consequently, the net area proposed to be planted with trees by the Forest Department during 1986-87 works out to 65,600 hectares (taking out Sl. No. 5 and counting Sl. No. 10 as only half).

Nurseries

The Forest Department also supports nurseries. Last year there were 1101 nurseries statewide, of which 417 were departmental nurseries, 614 were nurseries of private farmers and 70 were school nurseries. A total of 348.86 lakh seedlings were raised. The Forest Department provides seeds to farmers, and also gives a cash advance against the final purchase of seedlings. It buys back the seedlings at 50 paise per seedling, deducting 13 paise per seedling for seed, fertilizer and polythene bags. The farmer therefore gets 37 paise per seedlings. A similar system is followed for the school nurseries.

It is estimated that this year there are about 800 nurseries being run by schools and by farmers, each producing 10,000 saplings a year.

Budget

The Forest Department has Rs. 30 crores in its plan budget of 1986-87 for social forestry and related activities. They calculate that their cost of planting comes to about Rs. 5,000 per hectare for social forestry and about Rs. 4,500 per hectare for plantation in Reserve Forests.

Administrative Set-up

The social forestry activities are looked after by a Chief Conservator of Forests. The State of Madhya Pradesh also has a "State Lands Use and Wastelands Development Council" and a "State Wastelands Development Committee".

The State Wastelands Development Committee is headed by the Forest Minister and has as members the Revenue, Panchayat and Rural Development, Agriculture and Local Self-Government Ministers. It also has as members Secretaries and Directors of various Departments and the CCF (Social Forestry) as the member secretary. This Committee is expected to meet at least three times in a year.

People's Participation

Barring the involvement of Panchayats in their Social Forestry Programme (target of 9975 hectares in 1986-87) there appears to be no other involvement of the community in afforestation work. As already mentioned, for setting up nurseries about 800 farmers and schools have been involved.

Though the State Government called a meeting of NGOs in the State on 9 October 1985, inviting 30 NGOs and individuals, the response was very poor and very few attended. Even fewer have sent in proposals to the State Government for involvement in the programme.

In fact, from Madhya Pradesh only Kasturbagram Krishi Kshetra, Indore, is listed by the National Wasteland Development Board as having received grants from them (Rs. 1,07,000) during 1985-86. No other NGO yet seems to be supported either by the State Government or by NWDB in Madhya Pradesh.

Command Area Development Authority

The CADA proposed to cover 30,000 hectares in Chambal by aerial seeding in 1986-87. They are being assisted in this task by the Indian Air Force and the Directorate of Agro Aviation.

The species being planted by aerial seeding include Babul, Remjha, Prosopis, Dychrolopsis, Bamboo and Khair. People's participation is sought and planned for the protection of the area that has been seeded.

Forest Development Corporation

The FDC proposes to afforest 8000 hectares under the DPAP programme during 1986-87.

Rural Development Department

The Rural Development Department gives 20% of its Budget for RLEGP to the Forest Department for Social Forestry. In addition, it also gives funds from the DPAP budget to the Forest Development Corporation for undertaking plantation activities.

The department itself runs a few programmes for pasture development and

for fuel and fodder plantation. The Horticulture Directorate of this department also undertakes plantation and distribution of fruit trees.

Nurseries

The Department has an ambitious plan of setting up 459 nurseries, one in each block, run by the village women's organisations (Mahila Mandals). It has initially taken up 219 nurseries in Phase I and proposes to take up the rest next year.

Under this scheme a co-operative of 15 village women belonging to the poorest section are identified and a one-half hectare plot is given to this co-operative to run the nursery. Fifteen days training is given to these women on how to run a nursery, and for this period, they get a stipend funded from TRYSEM. The Government gives a grant of Rs. 54,000 per year to each co-operative for the first two years and also buys back the saplings for 50 paise each. At the end of five years the nursery stops getting the Government grant and is supposed to become self-sufficient.

Such a nursery is expected to produce from 40,000 to 50,000 saplings per year, which are brought by the State Government at 50 paise each. The resultant income goes to the members of the cooperative.

The Mahila Mandals will also be provided with a centre and a tool shed for their activities near the nursery.

Each nursery established by the Mahila Mandal will have a production potential of 20,000 saplings in the first six months starting October/November 1985, and thereafter 40,000 saplings annually. Assuming a mortality of 10%, the number of saplings available for sale in June-July 1986 will be purchased by the line departments. In the Year 1985-86 and 1986-87, the purchase price of the saplings will be Rs. 0.50 each for less than a year old and Rs. 1 each for those of a year or more. The likely income in the first year of establishment of the nursery will be Rs. 9,000 i.e. Rs. 450 per member, and from the second year onwards Rs. 18,000 or Rs.900 per member. This will be equivalent to employment of about 100 days in a year to each member.

The price of saplings will be fixed well in advance of the sowing season so that the Mahila Mandals are quite aware of the likely incomes to them. Initially, all the inputs for the first two years will be supplied free of cost. From the third year onwards, the mandals are expected to plough back part of their earnings into the nursery and take advantage of the infrastructure built up in the first two years. In the first and second year, saplings will be raised mostly in poly packs, but the group will also be encouraged to raise some directly in beds, once the members acquire sufficient skill and expertise. Poly packs of different sizes in 200 gauge will be used. A few of the members of the mandal will get wage employment in developing activities of the infrastructure.

Community Orchards with Fuel & Fodder Plantations

It is proposed to take up plantation of fruit trees, interspersed with fodder and fuel, wood, on 2,000 hectares in 31 districts of the State. In the

selected location, a committee consisting of representatives of Gram Panchayat, DRDA, VLW, an officer of the horticulture directorate and two local rural women will be set up to select the species for planting and to supervise management of the plantation. The plantation will be done by the local staff of the Horticulture Directorate. After the plantation, it will be maintained by the implementing agency for the period. The usufructs in the shape of fodder, grass, fuel, wood and fruits, will be made available to the local community and the surplus produce, if any, will be disposed of through open market sales.

The income so generated will be used for the maintenance of the plantation and its extension. Plants with spacing of 1x1 metre and 2x2 metres will be planted depending upon the species.

Fuel with Fodder Plantations

To meet the growing demand for fuelwood and fodder in the rural areas, fuel and fodder plantations will be taken up on 5400 hectares in 45 districts of the State in phases. During the current year, plantation work on 1500 hectares will be taken up. In 1986-87 another 2300 hectares and in 1987-88 the remaining 1400 hectares will be taken up. With a view to involving women's organisations in the rural areas in social forestry activity, plantation work will be done through these organisations in ten selected districts, which is 8,00,000 hectares for social forestry, wasteland development and farm forestry.

It was felt that they might cover another 40,000 to 50,000 hectares under farm forestry, but this would still leave them far short of their target.

The involvement of NGOs or the community in most of these efforts is non-existent and neither does there seem to exist any plan for involving them in the near future.

SOCIAL FORESTRY - TAMIL NADU FOREST DEPARTMENT

The social forestry programme of the forest department is divided into six components.

Tree Cultivation Incentive Programme

Landless, small and marginal farmers are given a free supply of 500 saplings of fuel, fodder, small timber and fruit-yielding species. Cash incentive is given on the following basis, depending on the number of surviving trees, at the end of first and second years.

Surviving plants	Rate/Plant	Total amount of incentive
1-10	1.00	10.00
11-30	0.50	10.00
31-100	0.25	17.50
101-500	0.10	40.00
		77.50

Recently the incentive has been stepped up to Rs. 2.50 per surviving plant to be paid at the end of two years.

Tree Planting in Poramboke, Plains and Hills

Depending upon the soil conditions, fodder yielding trees and indigenous grasses and fodder legumes are raised in between the tree lines.

Tree species yielding green leaf manure are planted where intensive agriculture is practised. Oil seed bearing trees are also grown.

Tree Planting in Tank Foreshores

With the concurrence of Panchayats and Public Works Departments, tank beds have been planted with Acacia Nilotica in submersible portion and velvel in saline upper portions.

Tree Planting along Roads, Canals, River Banks and Railway Lines

Fruit-bearing, shade-giving and ornamental trees are planted in these spots.

Tree Cultivation Extension Programme

This covers the large and medium land holders. Seedlings are sold at cost price without limiting the numbers of trees to be planted along with agricultural crops, sequentially or separately. Most of the eucalyptus are grown under this programme.

Fodder Plantations

Under this, fodder banks of subabul are cultivated wherever there is demand for fodder, needed for milk cattle. The cost per hectare varies from Rs. 1000 to Rs. 5000 (from raising nursery to 3 years). The weighted average is around Rs. 1400 per hectare.

Targets and achievements in this area is given in a tabular form in Annex I-(2)

Rural Development Department

In Tamil Nadu, the Department of Rural Development has taken up social forestry programmes from 1985-86, as it is closely related to the needs of rural areas. But not much headway has been made in this one year. The nurseries that were raised have not been very successful. The reason appears to be lack of expertise in this field.

The social forestry schemes of the Rural Development Department come under two programmes: the Rural Landless Employment Guarantee Programme (RLEGP) and the National Rural Employment Programme (NREP). Twenty percent of the total

budget of these programmes is allotted for social forestry. Participation of people is emphasised. The aim is to develop this as a people's movement with a view to:

A. make available fuelwood and fodder to the rural poor
B. provide employment opportunity to the rural unemployed
C. maintain ecological balance
D. improve the environment

In Tamil Nadu it is implemented through the District Rural Development agencies and the Blocks, taking technical help from the Forest, Horticulture and Agriculture departments.

Implementation during 1985-86

During this period, all efforts were directed to raise saplings required for 1985-86 and 86-87. In addition, plantations were started on minor irrigation tank beds, to the extent of 20 hectares and five hectares per block under NREP and RLEGP programmes (384 blocks). For details see Annex I(1).

Plans for 1986-87

Additional Wastelands: In addition to the wastelands under the control of the government, the following category of waste lands will also be taken up and the area available is in the process of being identified: a) Unused and uncultivable land under the control of the government and government undertakings, temples, sanatoria, rehabilitation homes and educational institutions; b) patta lands of small and marginal farmers of SC/ST families, which are lying fallow or under crops of minor millets which give a meagre income. Fuel, fodder, small timber and fruit trees will be planted in the government poramboke lands and they will be maintained with NREP/RLEGP funds till they are six to seven feet high.

Women belonging to the weaker section will be given 20 pattas and allowed to enjoy the usufructs. They will be employed to take care of the seedlings.

In wastelands belonging to government departments, government undertakings, temples, NREP/RLEGP will meet the cost of pitting and planting. But the institutions owning that land will have to take care of the maintenance. The benefits of this forest can be enjoyed by the institution on payment of one rupee per tree to a maximum of Rs. 2,000.

In lands belonging to SC/ST families, NREP/RLEGP will bear the cost of pitting and planting, and the families will be paid to maintain the trees till they attain maturity. These families can enjoy the produce including cutting rights.

Farm Forestry: Seedlings will be distributed to women from SC/ST families to plant around their homes. They would be supplied 30 seedlings (mixture of fuel, fodder, small timber and fruit trees) at a nominal cost of 20 paise per seedling. They will be paid a wage of Rs. 8 per day (including food grains) for 8 work days in a month, for maintaining these seedlings for a period of one year.

To watch the survival rate and to give technical help, a trained woman watcher will be appointed for every 150 beneficiary families.

Budget Allocation for 1986-87

N.R.E.P.	Rs. 905.5 lakhs
R.L.E.G.P.	Rs. 730.75 lakhs

NGO/Voluntary Group Participation

So far no NGO or voluntary organisation has participated in these programmes in spite of repeated invitations. There have just been two inquiries, one from RUHAs (a rural development outfit near Vellore) and Irular Munnetra Sangam, a unit for the upliftment of Irulas, a tribe in Tamil Nadu.

DISTRICT-WISE ALLOCATION OF FUNDS FOR IMPLEMENTATION OF FARM FORESTRY UNDER NATIONAL RURAL EMPLOYMENT PROGRAMME DURING 1986-87

Sl. No.	Name of the district	Funds to be placed at the disposal of D.A.	Production and distribution of seedlings	Funds to be placed at the disposal of DH & PC	Production & distribution of seedlings
(1)	(2)	(3)	(4)	(5)	(6)
		(Rs. in lakhs)	(in lakhs)	(Rs. in lakhs)	(in lakhs)
1.	Chengalpattu	11.07	22.14	1.25	1.75
2.	South Arcot	14.35	28.70	1.00	1.50
3.	Thanjavur	13.94	27.88	1.00	1.50
4.	Pudukottai	5.33	10.66	1.00	1.50
5.	Tiruchirapalli	13.12	26.24	0.75	1.00
6.	Ramanathapuram	4.51	9.02	0.25	0.50
7.	Madurai	8.61	17.22	0.50	0.75
8.	Tirunelveli	12.71	25.42	0.50	0.75
9.	Kanyakumari	3.69	7.38	0.50	0.75
10.	North Arcot	15.58	31.16	1.25	1.75
11.	Periyar	8.20	16.40	0.75	1.00
12.	Salem	14.35	28.70	1.75	2.50
13.	Dharmapuri	7.38	14.76	0.75	1.00
14.	Coimbatore	8.61	17.22	0.50	0.75
15.	Anna	5.74	11.48	1.00	1.50
16.	Kamarajar	4.51	9.02	0.75	1.00
17.	Pasumpon Muthuramalingam	4.51	9.02	1.00	1.50
18.	The Nilgiris	-	-	1.50	2.00
	TOTAL	156.21	312.42	16.00	23.00
	Physical	335.42 Lakhs Numbers of various seedlings			
	Financial	Rs. 172.21 lakhs			

TARGETS AND ACHIEVEMENTS OF TAMIL NADU SOCIAL FORESTRY PROGRAMME

ANNEX I - (2)

Name of Component	Target for 5 years 1981-82 to 1985-86	Target for 4 years 1981-82 to 1984-85	Achievement up to the end of 1984-85 (4 years)	Percentage of achievement
1. Tree Cultivation Incentive and Extension Programmes (Number of seedlings distributed)	501 lakhs	400.8 lakhs	736.20 lakhs	183.7
2. (i) Tree Planting in Poramboke Plains	14,700 hectares	11,760 hectares	5,317 hectares	45.2
(ii) Tree Planting in Poramboke Hills	24,500 hectares	19,600 hectares	13,007 hectares	66.4
3. Tank Foreshores	1,32,000	1,05,600	77,848	73.7
4. Strip Plantations	6,075 kms.	4,860 kms.	6,605 kms.	135.9
5. Fodder Plantations	5,250 hectares	4,200 hectares	1,243 hectares	29.6

SOCIAL FORESTRY PROJECT - KARNATAKA FOREST DEPARTMENT

Social forestry programme in Karnataka aims at establishing 1,50,000 hectares of tree plantations throughout the State. The total outlay for a period of five years from 1983 to 1988 is Rs. 55.23 crores.

With the active co-operation of the people, the forest department plans to raise 30,000 ha of plantations on community lands. The remaining 1,20,000 ha would be covered through farm forestry by private farmers who will be given free seedlings and will be given technical assistance for five years.

The plantation for these five years is as follows:

A) 8,000 hectares of government-owned gomal lands

B) 1,000 hectares of revenue wastelands (C and D class) and public wastelands

C) 3,000 hectares of foreshores of irrigation land

D) 1,000 km. of canal bank

E) 3,000 km. of strip plantation along roadsides

F) 2,000 hectares of bamboo plantations in forest areas

G) 1,20,000 hectares of forestry on private lands by distributing 6,000 lakh seedlings.

Priorities on choosing the land to be brought under this programme will be based on any two of the following criteria:

A) Where mean rainfall is less than 800 mm
B) Where the designated forest area in the district is less than 15% of the geographical area
C) Where there are more than 9 rural based persons per hectare in the designated forest area

Based on the above criteria, 19 districts have been included in the project.

Gomal Land (Model I)

These were lands set apart for grazing but over the years have degenerated. Such lands that have been rendered unproductive and susceptible to soil erosion are selected in consultation with the local people. The choice of species to be planted is based on the soil, rainfall and requirements of the people of the area. In raising the plantations' local labour, landless people and poor farmers are employed. The plantation is maintained by the forest department for three years after which it is the responsibility of the local Panchayat to manage and protect it until the yield is harvested and shared.

The seedlings required per hectare, making allowance for 20% replacement of failures, is 2400 (2000 + 400). The total cost is calculated as man days, at the rate of Rs. 7.50 per man per day. The total man days required to raise one-hectare of plantation for two years is calculated as 384.25 + 55.74 + 40.70 (initial + first year + second year). This works out to Rs. 3605 in money terms, not including the cost of seeds, seedlings and fertilisers.

C and D Class Lands (Model II)

Revenue lands classified as C and D are either unsuitable for cultivation or do not give optimum production due to degraded soil, rocks or steep slopes. These are included in this model. The species selected would depend upon the type of soil and the amount of rainfall in that area. The cost involved per hectare is the same of gomal land.

Tank Foreshore (Model III)

Under this category, approximately 75,000 hectares of land is available

for afforestation in the state. Area to be afforested is taken up after consulting the local people. The choice of species, mix and management, are also discussed with the people.

The cost of planting works out to approximately Rs. 2100 per hectare. The maintenance cost for the next two years is Rs. 570 and Rs. 550 (Total Rs. 1,120 per hectare). The number of seedlings planted is 1600 per hectare including a 20% for replacement.

Fifty percent of the produce from these plantations will be given to the mandal Panchayat and the Grama Samithi, if Panchayats agree to protect and maintain these plantations. Out of the 50% given to the Panchayats, half will be given at concessional rate to small and marginal farmers and landless labourers.

Canal Banks (Model IV)

A number of irrigation projects in Karnataka have well-laid canal systems of nearly 4500 km for conveying water. On both sides of these canals strips of land are available for planting. Under this project, the plan is to raise trees for 800 to 900 km length which would be equivalent to 1000 ha.

This plantation would also benefit the people by meeting the requirement of fire wood, small timber, fodder, poles and fruits. The cost per kilometre of planting and maintaining the trees for two years works out to Rs. 6310. The produce from the canal bank is the property of the Forest Department.

Strip Plantation on Roadsides (Model V)

Under this scheme, it has been planned to raise 3000 hectares of avenue plantations on national highways, state highways, district roads and taluka and village roads. The idea is to make vehicular travel pleasant and at the same time provide shade, fuelwood and fruits to people living nearby.

The species chosen depend upon the rainfall of that area. For this purpose, the entire state is divided into two zones.

A) Zone I - area receiving above 1,000 mm or 40" rain
B) Zone II - area receiving less than 1,000 mm or 40" rain

Five different combinations of permanent and fuelwood trees are planted. Each type of combination is adopted for a length of two km.

A model of two rows of trees is adopted in Karnataka, the first row being ten to 12 metres from the centre of the road, and the second row, six metres from the first row.

Since avenue plantation is very expensive, live fencing around the pits is grown. The plants used for such protection are either Prosopis Juliflora or Euphorbia. These are grown a year in advance. During the second year, tall plants of six to seven feet height are planted.

Apart from providing proper hedges, a watcher is in charge of a given

length of the avenue. He is in charge of watering the plants and replacing casualties. The cost of planting and fencing and maintaining 200 avenue trees and 200 fuelwood trees for a period of two years is Rs. 4447.

One interesting feature of this programme is the rejection of eucalyptus hybrid as avenue tree. This species was tried a few years back and it was observed that as avenue trees they are monotonous. Moreover, they are neither shade giving nor do they yield fruits for humans or other creatures.

Bamboo Plantation for Tribals (Model VI)

In Karnataka, there are approximately 7,00,000 tribals belonging to Jenu kuruba, Kadu kuruba, Soliga, Lambani and Halaki tribes. Most of them live off the forest and depend on bamboo for house construction and to make artifacts. In the last decade, bamboo has been very much reduced in the forests and this had adversely affected the tribals. This project plans to fulfill their need by growing bamboo over an area of 2,000 ha.

Planting area is selected close to tribal colonies in reserve forests and other government land. The tribals are employed in preparing the soil, planting and protecting the plantation. Two kinds of bamboo, Bambusa bamboo (big bamboo) and Dendrocalamus strictus (Small bamboo) are grown.

The cost per hectare of planting and maintaining the bamboo for two years is Rs. 1,662. The bamboo produced from social forestry projects will be given to the co-operative society of Scheduled Castes and Scheduled Tribes at 50% of the rates fixed by the Forest Department.

Farm Forestry (Model VII)

Under farm forestry, it is intended to establish 1,20,000 hectares of forestry on private farm lands through development of additional nurseries, distribution of planting material, and provision of advisory services.

Seedlings of species that yield fuelwood, fodder and fruits will be raised, initially, in the departmental nurseries: later incentives will be given to institutions, individuals and voluntary organisations to carry on this work.

During the first year, 2,500 seedlings per farmer were supplied free but now there is provision only for 1,500 seedlings per individual farmer. Technical guidance is given by the department staff.

The different types of farm forestry followed in Karnataka are bund planting, block planting and planting by tractor ploughing. In agro forestry, when the farmer desires to have agricultural as well as forestry crops, simultaneously, strip plantation is followed (4-6 rows of trees at an interval of 3-4 metres for agricultural crops).

Nurseries

It is not possible for the Forest Department to supply the 600 million seedlings required for farm forestry programmes. Therefore, the project

encourages individuals, institutions and non-governmental organisations to start nurseries. Seed and technical expertise is provided by the Forest Department to raise these nurseries. When the seedlings are grown, the Department buys them from the nurseries and distributes them under the farm forestry programme.

Types of Nurseries:

1) Permanent nurseries - The requirements for this type are permanent water supply, easy availability of labour and proximity for close supervision. It can have a capacity to raise five to ten lakh seedlings. This nursery is managed by the Forest Department.

2) Temporary nurseries - These are maintained for two or three years till all the nearby plantations are covered. These can raise three to five lakh seedlings. This is also run by the forest department.

3) Satellite nurseries - These are small private nurseries located near the community or the villages. These are raised by social forestry workers, farmers, institutions or voluntary organisations. They can be of different categories:

a) Kissan nurseries are raised by small marginal farmers or individuals of weaker sections of the society. A unit of 20,000 bags of the size of 4" x 6" is considered to be an ideal one for an individual to raise.

b) School nurseries are raised by school children who are encouraged to do so, under the guidance of the teacher and the forestry staff. Size of the nursery is about 50 to 60 thousand seedlings. The species raised are selected on the basis of feedback from the locality.

c) Voluntary organisations like the Tree Lovers Clubs, service clubs and youth organisations are encouraged to participate in social forestry by raising nurseries. Normally, a voluntary organisation will raise four to six lakhs of seedlings through their members. The goodwill of these institutions is used for propagating the message of social forestry to the people.

The estimated total cost for raising one lakh polythene seedlings is Rs. 26,000 and the estimated cost for raising a 100 seedbeds is Rs. 8,200.

SOCIAL FORESTRY - WASTELAND DEVELOPMENT

Social forestry under the Wasteland Development Programme is taken up with funds allotted for NREP and RLEGP. Government wasteland and barren forest lands are covered in this. If the land is for community use, the plantation is taken care of for seven years. Degraded C and D class lands are maintained for one year after which temporary patta is given to deserving individuals.

For 1986-87 period, 25% of the NREP and RLEGP funds are allotted for social forestry. Out of this, 20% is given for afforestation and the remaining 5% is earmarked for growing decentralised nurseries by kissans, institutions and non-governmental organisations.

The physical and financial target under plan schedule for 1986-87 is as follows:

	Financial target (in lakhs)	Physical target (in hectares)
RLEGP	509.760	7098
NREP	573.380	5359
DPAP	269.377	1974
World Bank aided Social forestry	1039.270	14714
TOTAL	2391.787	29145

The wasteland available for development in Karnataka is as follows:

1. Forest land	12,52,490 ha
2. Private-owned land	7,62,871 ha
3. Public lands	
a) owned by Government or its agencies	3,64,876 ha
b) community lands (grazing and foreshore lands)	1,72,622 ha
TOTAL:	25,52,859 ha

For purpose of plantation, these lands are divided into 12 plantation models:

Physical target for 1986-87,
cost per hectare and implementing agencies.

Plantation Model	Physical target	Cost in Rs/ha	Total cost	Number of	Implementing Agency
Foreshore of tanks	5,000	3,542	177.10	1920	Initial planting by Forest Dept. Subsequent maintenance and management by the village Panchayats (Rural Development Department)
Roadside (Highways)	1,000	11,075	110.75	960	Forest Dept. till tree pattas are given
Roadside (Rural/ Dist)	2,500	4,334	108.35	2640	Initial planting by Forest Dept. till pattas are given to adjoining land holders.
Canal Banks	350	6,941	24.30	1760	Planting by Forest Dept. Maintenance and Management by Irrigation Dept.
Bamboo Plantation	2,500	3,032	75.80	334	Planting by Forest Dept, Subsequently to be handed over to Tribal Co-operatives.

Plantation Model	Physical target	Cost in Rs/ha	Total cost	Number of	Implementing Agency
Mixed Plantations C & D class lands Gomal lands and barren lands	30,000	6,303	1890.00	24000	Forest Dept. In case of Social Security plantation, usufructing rights will be given to identified beneficiaries.
Grass cum legume fodder plantation	2,000	3,366	67.32	60	Planting by Forest Dept. Maintenace and management by village Panchayats (Rural Development)
Greening the rocky and bouldery areas	10,000	1,732	173.20	200	Forest Department
Enrichment planting in degraded forests	10,000	2,233	233.30	240	Forest Department
Aerial seeding	10,000	550	55.00	-	Forest Department
Farm forestry (Fruit orchard)	10,000	330	33.00	100	Private farmers with seedlings supplied by Forest Dept. or kissan nurseries and technical help from Forest Dept.
Farm forestry (fuelwood)	94,650	660	624.69	2000	" " "
	1,78,000		3563.71		

Selection of Species

Over 100 species have been identified as suitable for purposes of developing wastelands which are appropriate to the soil and climatic conditions, degree of degradation of site, rainfall, suitability for fuel, fodder and other agricultural needs, suitability for rural and cottage industries and for the restoration of ecological balance.

The fuel needs of the village are given importance and therefore the choice is on coppiceable, fast-growing species.

Funds for the Programme

During 1985-86, advance work for planting over 1,78,000 hectares would be initiated. During 1986-87, the programme includes planting of these 1,78,000 hectares and advance work for planting 2,13,350 ha in 1987.

Taking into consideration all the funds available from all sources, including World Bank social forestry project and other rural development programmes, the State Government requires an additional Rs. 862 lakhs to implement the physical target for 1985-86 and an additional 4.43 crores for 1986-87.

Role of Voluntary Organisations

Efforts are being made to identify all voluntary agencies in Karnataka to involve them in wasteland development programmes and to find out their willingness to take up plantation work in identified areas.

FINANCING OF AFFORESTATION PROGRAMMES IN INDIA

Pranab Banerji

This paper deals with the question of financing of all afforestation and related programmes in India in the next few years. However, special note has been taken of the role of and the finance for, the non-governmental organisations (NGOs) engaged in afforestation efforts. The paper concentrates on (i) identifying the various sources and types of finance available for different types of afforestation schemes, (ii) estimating the amounts of finance available from each source and their aggregate availability, (iii) evaluating the efficiency of use and social implications of various types of finance, and (iv) suggesting alternatives for better use of the available resources. The main conclusion of the paper is that the quantum of finance is not a constraint. The principal problems relate to the efficient use of this finance, the proper channeling of resources and the development of appropriate institutional arrangements.

The paper is divided into two principal sections. Section I deals with the sources and types of finances for afforestation and makes an estimation of the total quantum of finance availability directly or indirectly for afforestation and related programmes. Finances explicitly available for NGOs, or finances which the NGOs can tap are highlighted. Section II attempts an evaluation of the various sources/types of finance and also suggests certain correctives. These suggestions are intended to serve as a basis for discussions and are in no way comprehensive.

The question of adequacy, or otherwise, of finance must be preceded by an estimation of the requirements of finance. Therefore, before examining the availability of finance, a brief mention must be made about the estimation of the requirements. A detailed estimate of the costs and of afforestation capabilities is beyond the scope of this paper. Further, no comprehensive effort has been made to estimate the financial requirements for afforestation programmes, especially for those schemes which involve people's participation. The National Wastelands Development Board (NWDB) has made an exercise in estimating the "Fund Requirements" (1). This paper examines the question of availability of finance in the background of the estimates made by the NWDB primarily because no other estimate is available at the national level. Nevertheless, it needs to be emphasized that these estimates are not satisfactory and, what is more important, they overlook the fact that the costs are themselves dependent upon the planning of the programmes.

The first problem with the NWDB estimates is the obvious one of under-estimation of unit costs. The per hectare costs of plantation has been estimated at Rs. 2,000 for four years inclusive of cost of saplings, ground preparation and protection and watering (2). There are two reasons given for the low estimates. First, people's participation would reduce labour and protection costs and second, some areas would be covered with fodder, the cost per hectare of which is very much lower (3). Neither reason is strong enough. According to one estimate (4), the per hectare cost of growing eucalyptus (with 1,500 plants per hectare and wages of Rs. 8.50) is Rs. 3,460 in five years. If the costs of supervision and protection and fencing are deducted, the costs reduce only slightly to Rs. 2,915 per hectare. According to another estimate (5), the cost of growing chrysopogon fulvus, a fodder

grass, was Rs. 4,000 per hectare in the hilly regions of Dehradun in the late 70s. The NWDB's cost estimates, therefore, appear to be fairly inadequate.

The second problem arises from the fact that although the estimate of Rs. 2,000 per hectare has been arrived at by making the explicit assumption of people's participation, it has been extended to all types of afforestation efforts. The afforestation programmes undertaken by the Forest Departments on their own lands cannot have the same costs per hectare as they are not implemented through people's participation on any significant scale. A separate estimate of costs for different types of afforestation programmes can be worked out only if we know the areas to be afforested under them. What the NWDB did was to first work out an abstract per hectare cost and then multiply it by the afforestation target (of five million hectares) to arrive at the total costs. Now, since the Forest Department is getting say, Rs. 1,000 crores (an incorrect NWDB estimate) in four years, it follows that they will be planting trees in five million hectares in four years because the cost per hectare is Rs. 2,000. This is putting the cart before the horse. It shows that financial requirements are worked out without reference to the actual schemes, and then these schemes are supposed to follow the financial allocation.

Finally, there is no reason why the target of five million hectares should be reached, say by 1987-88, and why five million hectares should be planted every year thereafter. If the target is to plant, on an average, five million hectares it can also be achieved in other ways. Thus, for example, three million hectares may be planted in the first year. In the next four years, four, five, six and seven million hectares may be planted so that the average comes to five million hectares per annum for five years. It is administratively easier and economically less wasteful to increase production by small steps than to take a quantum jump and then stabilise at a level. Since the target for afforestation was 1.2 million hectares in 1985-86 and since neither adequate infrastructure nor a shelf of afforestation projects have been drawn up, it will be extremely wasteful to attempt to spend amounts which would afforest five million hectares from 1987-88. In plain words, increasing afforestation targets four-fold in two years is not feasible. Inflexibility on this issue would mean, at best, that only the expenditure targets are met.

During the Seventh Plan (1985-90), the financial requirements for afforestation and related schemes has been put at about Rs. 4,800 crores by the NWDB. This estimate is drawn up on the assumption that the target of five million hectares will be reached by 1987-88 and that Rs. 100 crores per annum is needed for infrastructure and training. In the next section, the availability of finance is examined with reference to this requirement of Rs. 4,800 crores despite all the defects in its estimation.

I

There are three principal sources of finance for afforestation programmes. First, are the Budgetary resources of the Central and State Governments. Second, is the credit advanced by commercial banks or by the Central Land Development Banks. Both are ultimately refinanced by the National Bank for Agriculture and Rural Development (NABARD). The third source, or group of sources, is the finance available from non-governmental and non-bank individuals and institutions. This we shall call private

finance. It is a residual category which includes profit-motivated private companies engaged in afforestation as well as voluntary organisations obtaining finance from private donations either Indian or foreign.

The type of finance and the types of afforestation schemes financed depends on the source of finance. Further, a single source may finance different types of afforestation programmes. Hence, a further subdivision of the sources, according to the types of afforestation programmes, is needed. These are discussed in detail below:

1. BUDGETARY RESOURCES: Quantitatively, budgetary sources are by far the largest single source of finance for afforestation. This source may be further subdivided according to the nature of schemes financed.

A. Budgetary Resources of the Forest Departments:

Afforestation programmes which are undertaken by the Forest Departments on their own land is financed out of these resources. The Seventh Plan allocation for "forestry and wildlife" which is to be spent by the Forest Departments in plan projects is Rs. 1,859 crores. This is a quantum jump from the allocation of Rs. 693 crores in the previous plan. This is the plan outlay and represents expenditures on new schemes or schemes carried over from earlier plans. The total expenditure by the Forest Departments is larger as it includes non-plan expenditures also.

B. Budgetary Resources for Employment Generation Programmes:

There are two well-known employment generation programmes in the rural areas. The National Rural Employment Programme (NREP) is jointly financed by the Centre and the states and is implemented in association with the local bodies. The Rural Landless Employment Guarantee Programme (RLEGP) is fully sponsored by the Centre and in it there is no stipulation of associating the village panchayats. It has been decided that at least 20% of the resources under NREP and RLEGP shall be allocated for "social forestry" programmes. This means that during the period 1985-90, at least Rs. 846 crores are available for afforestation schemes under NREP and RLEGP. States may, as in the case of Madhya Pradesh, allocate more than 20% of NREP/RLEGP funds for "social forestry".

C. Budgetary Resources for Afforestation in Other Programmes:

The State Governments also run "Special Employment Programmes" out of their own budgetary resources in addition to NREP and RLEGP. They intend to spend Rs. 509 crores on such programmes during the present plan period.

Further, Rs. 48 crores have been earmarked for the "Integrated Rural Energy Programmes" which includes, among other schemes, programmes for fuelwood plantations.

In addition, Rs. 3,570 crores are available during the plan period for "Special Area Programmes" like "Hill Areas Development Programme" and "Desert Development Programme."

It is clear that the very nature of these programmes suggest that afforestation schemes are, or can easily be made, a part of these programmes. As in the case of NREP and RLEGP, 20% of the outlay on these programmes may be assumed (though there is perhaps no explicit policy to that effect) to be available for afforestation programmes. This works out to an additional sum of Rs. 825 crores.

D. Budgetary Resources for Related Programmes:

There are two well-known employment generation programmes in the rural areas. The National Rural Employment Programme (NREP) is jointly financed by the Centre and the States and is implemented in association with the local bodies. The Rural Landless Employment Guarantee Programme (RLEGP) is fully sponsored by the Centre and in it there is no stipulation of associating the village panchayats. It has been decided that at least 20% of the resources under NREP and RLEGP shall be allocated for "social forestry" programmes. This means that during the period 1985-90, at least Rs. 846 crores are available for afforestation schemes under NREP and RLEGP. States may, as in the case of Madhya Pradesh, allocate more than 20% of NREP/RLEGP funds for "social forestry".

E. Budgetary Resources for Related Programmes:

So far we have estimated the resources available directly for afforestation programmes. But trees are planted also by the Departments of Horticulture and Plantations. The Seventh Plan provides Rs. 150 crores for programmes of horticulture and plantations. The entire amount may be included in the estimates of financial resources for afforestation as they provide plant/tree cover.

Similarly, the budget allocations for the Animal Husbandry Departments provide for growing fodder or grass. Expenditure on fodder plantations is likely to be a small part of the expenditure by these departments. If we assume that only 5% of the budget allocation shall go for such plantations, the Seventh Plan estimate for fodder plantations through the Animal Husbandry Department will amount to Rs. 54 crores.

In addition, the Seventh Plan allocations for "Environment and Ecology" and for "Soil and Water Conservation" are Rs. 428 crores and Rs. 740 crores respectively. Five percent of these allocations may safely be assumed to go for afforestation/plantation works. This would amount to Rs. 58 crores.

In recent years, the railways and other public sector undertakings are showing interest in afforestation programmes. There is, however, no estimate of the amount they propose to spend. Though no estimate can be made, it must be noted that, if these undertakings are adequately motivated, the expenditure on afforestation/plantation would not be insignificant. Even if we do not consider the expenditures by public sector undertakings, the amount available for programmes under this heading (d) is Rs. 262 crores in the present plan period.

F. Budgetary Resources for Other Programmes:

There are some budgetary provisions which are not directly earmarked for afforestation/plantation programmes but which can be used (and have been used in a limited manner) for afforestation programmes.

The funds available in such potentially usable programmes are large. The two most important programmes of this type are the "Integrated Rural Development Programme" (IRDP) and the programme for "Training of Rural Youth for Self Employment" (TRYSEM) with a combined Seventh Plan outlay of about Rs. 3,200 crores.

The Funds available under TRYSEM can be used, among other things, to train the rural poor for afforestation/plantation programmes. The Madhya Pradesh Government has been utilising TRYSEM funds to train rural women from landless families in the maintenance of nurseries and in plantations. The women are also provided tool-kits from these funds.

The IRDP funds, in contrast, do not appear to have been employed for forestry projects. However, provisions exist by which these funds may be employed for forestry projects also. The Seventh Plan Document, for example, states that "due emphasis would be given to augmenting productivity through IRDP by taking up land-based activities like minor irrigation, dry farming, horticulture and even farm forestry" (6).

It is necessary to emphasize that the budgetary resources for IRDP are only a part of the total availability of funds for the programme. The other, and the larger part, is institutional credit. Under the IRDP, assets (e.g. pump sets) are provided to selected households of the rural poor. If the household is that of a small farmer (one to two hectares) then the government bears up to 25% of the cost of the asset. The subsidy for marginal farmers (zero to one hectares) and agricultural labourers is one-third of the capital cost. For Scheduled Tribes, 50% subsidy is provided. That part of the asset cost which is not subsidised is financed by bank credit carrying low rates of interest. It is evident that a part of the IRDP funds can be utilised to cover the capital costs of afforestation programmes, provided the rural poor are involved in the programme. Even if a mere 5% of IRDP-TRYSEM funds are utilised in this manner, Rs. 160 crores would become available for training and capital subsidy during the Seventh Plan.

G. Budgetary Resources for NGOs:

With the setting up of the NWDB, a scheme for "grants-in-aid" to voluntary agencies have been drawn up. Thus a separate budgetary provision exists for grants to NGOs working for afforestation and wastelands development. The Seventh Plan provision for such grants is about Rs. 25 crores.

Financial assistance to NGOs is provided also by the People's Action for Development (India) (PADI). The total assistance provided last year (1985-86) was less than Rs. 2 crores. PADI provides assistance to all NGOs working in the field of rural development. The amount

available for NGOs working in forestry alone would, therefore, be very small. Hence, they have been ignored.

In addition to grants to NGOs, there is a policy for involving them in rural development and welfare schemes. The Seventh Plan proposes that about Rs. 100-150 crores of planned expenditure on such programmes be "earmarked for use in active collaboration with voluntary agencies" (7). Social forestry is, of course, only a part of such programmes. Since plan expenditures on social forestry have already been noted, they should not be counted again. However, this amount gives an idea of the (small) magnitude of the proposed involvement of NGOs in plan projects. The NGOs may (Madhya Pradesh being an example) receive fees for their involvement in afforestation projects.

H. Budgetary Resources of NWDB:

The NWDB is a development occurring after the Seventh Plan Document was written. The budgetary provisions of the NWDB, therefore, are not mentioned in the Plan and must be considered separately.

As already noted, the NWDB proposes to spend Rs. 25 crores for grants to NGOs. In addition, it runs centrally sponsored schemes of afforestation. Two of its schemes are old and have been included in the Seventh Plan. Expenditures on these schemes must therefore be excluded. The new schemes are: establishment of Decentralised People's Nurseries, grants to the Indian Institute of Forest Management, Bhopal and "Silvipastural Scheme" with plan expenditures of Rs. 60 crores, Rs. 8 crores and Rs. 13 crores (estimated) respectively. Thus the NWDB will spend a total of Rs. 81 crores during 1985-90 excluding grants to NGOs and old schemes.

It is clear from the above discussion that budgetary resources, which are explicitly available for or which can easily be tapped for afforestation and related schemes, are indeed very large. The total budgetary resources estimated for 1985-90 is about Rs. 4058 crores. The details are summarised in Annexure 1. However, this figure is likely to be an underestimate for the following reasons:

(1) Some states may earmark more than 20% of NREP/RLEGP funds for social forestry; (2) plantation expenditures by public sector undertakings have not been counted; (3) the Desert Development Programme and other related programmes have a forestry component which is much greater than the 20% assumed, (4) Some other projects, like Flood Control or Command Area Development, may have afforestation components but have not been considered.

2. BANK FINANCE: Though the budgetary resources are, by far, the largest source of finance, substantial amounts from the commercial banks have become available for afforestation and related schemes in recent years. The ultimate support for such schemes comes from the NABARD. Bank finance differs from budgetary resources as it is credit and needs to be repaid after a specified period. Thus bank finance is necessarily linked with the sale of the produce. The purposes for which bank loans are available may broadly be grouped under three heads.

A. Bank Loans for Afforestation:

The NABARD's commitments or sanctions for afforestation schemes stood at about Rs. 100 crores at the end of June 1985. NABARD's outstanding commitments for three consecutive years (1983-85) shows that it has been making Rs. 20 crores of additional funds available every year for forestry. NABARD, however, provides refinance to the extent of 80% on loans provided by the commercial banks. Therefore, bank loans of about Rs. 25 crores are available annually for afforestation. For five years the total would be Rs. 125 crores.

B. Bank Loans for IRDP:

As already mentioned, the IRDP has two financial components. The assets provided are financed through a mix of government subsidies and bank credit on an average subsidy credit ratio of 1:2. We estimated earlier that budgetary resources of about Rs. 160 crores can be used for afforestation out of IRDP-TRYSEM funds. Given the subsidy credit ratio and allowing for Rs. 10 crores for TRYSEM funds used for social forestry, we may expect that a credit component of Rs. 300 crores would be available for capital expenditure in afforestation schemes. (In the Sixth Plan a total of Rs. 21 crores including Rs. 5.40 crores UNICEF assistance was available for TRYSEM. To assume that in the Seventh Plan Rs. 10 crores of TRYSEM money would be spent on training for social forestry is not an underestimate.)

C. Bank Loans for Related Schemes:

NABARD refinance has also been available for land development and plantations and horticulture. NABARD sanctioned fresh long term loans of Rs. 23 crores and Rs. 85 crores for these two purposes (respectively) during 1984-85. Assuming no change in this trend, the five year estimate of refinance for these two purposes is Rs. 540 crores. However, since this is only the refinance estimate, the total bank loan estimates would be 25% (9) higher, i.e. Rs. 675 crores. Even if only 20% of this amount is used for plantation/afforestation projects, the sum available during the plan period will be Rs. 135 crores.

Thus, the total quantum of bank loans that are available, or can be tapped, for afforestation and related projects totals up to Rs. 560 crores (see annexure II). This figure does not include investment loans for sericulture and fodder plantation component of loans for dairy development due to computational difficulties.

3. PRIVATE FINANCE: As stated earlier, this is a residual category. This category may be subdivided according to the types of organisations and the nature of afforestation undertaken by them.

A. Companies Undertaking Afforestation for profit:

Recently, a number of companies have been floated with the express objective of directly engaging in afforestation projects. Earlier

some companies, like Sree Rayalseema Paper Mills Ltd., started farm forestry schemes using NABARD refinance. They differed from these new companies in a fundamental way; the land was owned and operated by the farmer. The new companies plan to operate (but not own) large consolidated tracts of land. The finance comes from private investors in response to promises of very attractive returns on investment. Some of the prominent companies are Neha Leasing and Holdings Ltd., Marudhar Farms, United Land and Housing Ltd. and Asian Townsville Farms Ltd. It is not possible to say how much finance they are mobilising from the public. But given the attractive returns, the amount may not be insignificant. If the first experiments succeed, the inflow of private capital to the forestry sector would rise sharply.

B. Other Companies Undertaking Afforestation:

Some private sector companies have also shown interest in afforestation programmes. They are engaged in forestry not necessarily for profits. The amount spent by these generally well-established companies on social forestry may not add up to any significant amount.

C. Voluntary Agencies:

The funds for the afforestation efforts of the voluntary agencies may come from grants from the government or through loans by banks. These two sources have already been discussed. The voluntary agencies may also receive donations from individuals, private trusts, and foundations, from both within the country and abroad. The total amount received is impossible to estimate. But it is perhaps not insignificant. To give an illustration, the Comprehensive Rural Operation Services Society (CROSS) is reported to have received foreign contribution of Rs. 2.2 crores in one year only (1985)(10).

D. Farmers:

Farmers, especially the large and affluent ones, may go in for farm forestry or for planting trees on the margin because of high returns. They may utilise their own financial resources. This, however, would be unnecessary given easy availability of bank credit for agriculture and forestry at low rates of interest. Further, large farmers owning fertile, irrigated land are not many (though the area owned by them may not be small); the total sum invested in this manner would be little.

It is neither possible nor necessary to estimate the total resources available from all categories of private finance. It is sufficient to note that quantitatively this would not match government resources or bank finance. Nevertheless, it will not be an insignificant amount. Of the various types of private finance, the first category, forest companies, are likely to become increasingly important because capital flows easily towards high return ventures.

A separate mention must be made of external assistance for afforestation programmes. Quantitatively, external assistance is

channeled mainly through the government budget or through NABARD loans. Thus, it may not constitute a separate source of finance. Nevertheless, their mention is necessary to highlight the increasing importance being attached to forestry programmes by donors. The details of external assistance through the government are given at the end (Annexure III). A marked increase in foreign aid for forestry is noticeable from 1980. The average annual sanctions of assistance for the last five years has been about Rs. 43 crores, a total of Rs. 215 crores. Since forestry projects require little foreign exchange component, foreign exchange loans are unnecessary. Further, since the loans have to be repaid in foreign currencies, exports become obligatory.

SUMMARY: The total quantum of finance available during the period 1985-90, as estimated above, is Rs. 4,618 crores. This amount does not include fairly substantial private finance that may become available. It also underestimates the budgetary resources as well as the quantum of bank loans that are likely to be available for forestry and related projects. Nevertheless, the amount is not much less than the requirement of Rs. 4,800 crores estimated by the NWDB. The availability of finance, therefore, will not be a constraint in afforestation programmes in the next few years. The more important questions are of the efficient and socially beneficial use of the financial resources. These issues are discussed in the next section.

II

In this section the different types of finance will be examined in relation to the efficiency of their use both in economic and social terms. The purpose of this examination is to identify the major problems or shortcomings in the the proper utilisation of the financial resources. Suggestions for a better utilisation of resources have been provided to serve as the basis for further discussions. The evaluation of each source of finance is done separately.

1. BUDGETARY RESOURCES: The budgetary resources of the Forest Departments for afforestation on their own land will not be discussed here. The data given out by the National Remote Sensing Agencies (11) is a strong indictment on the performance of the Forest Departments. The identification of factors responsible for their dismal performance would involve an analysis of forest policy, planning, administrative system, and project implementation. These are very important issues. But this paper is written primarily for schemes which may involve NGO participation. Hence, the emphasis here is on the social afforestation schemes under the Employment Generation Programmes. The concrete instances are based on the circular issued by the Department of Panchayat and Rural Development of Madhya Pradesh and a field study (12) on the implementation of the NREP in Drug and Raipur districts. Thus, Madhya Pradesh is the case which provides the basis for the conclusions that follow.

It is generally believed that social forestry schemes, barring a few exceptions, have not been implemented efficiently. In some cases, the survival rate is as low as 5%. The species chosen are inappropriate for local needs. The projects do not involve the local community and the local people

are largely indifferent towards the schemes. There is little provision for maintenance and protection. Sometimes, especially in the case of strip plantations, even irrigation is not provided for. Defects such as these have been noticed by many. The main causes which are responsible for such slips and inefficiency must be analysed in greater depth. Four causes have been identified and discussed below.

A. The "social forestry" programmes are seen primarily as anti-poverty programmes as they are a part of such programmes. In these programmes, great emphasis is laid on the targets of employment generation measured in standard man days per year and on the spending of a specified amount (the budget allocation). Asset creation is of secondary importance. The allocation of the funds under these programmes is based on poverty related criteria. The allocation of funds to states, and within a state among districts, is based on a criterion under which weight is given to the number of agricultural labourers, marginal farmers and to the incidence of poverty. Thus, the amount of resources that a district may get has little relation to its needs for afforestation. In Madhya Pradesh, for example, afforestation schemes have been taken up in densely forested areas simply because budgetary targets have to be met.

B. Another set of problems is due to the top heavy nature of planning. Theoretically, the plantation/afforestation projects have to be drawn up at the local levels. In practice, however, directions come from the State level from the Department of Panchayat and Rural Development. These instructions are often so detailed that they even specify the size and spacing of pits, the types of species to be grown, the number of persons who need to be trained in each block for afforestation programmes, the duration of training, the per hectare cost of plantation and even furnish a detailed constitution of the Women's Cooperatives that are to be formed to implement the programmes. To expect active local participation with such a planning process is illusory. It is hardly surprising that the local populace becomes apathetic, inappropriate species are chosen, proper soil treatment is not done and per hectare cost estimates are proved wrong.

C. The implementation machinery at the lower levels is seldom suited for the task. The detailed instructions from above are partly responsible for the absence of proper project planning at the lower levels. Further, lack of adequately trained staff accentuates the problems. The projects that are drawn up at the lower levels and the implementation of these projects are poor. Part of the responsibility for this goes to the "social forestry" wings of the departments of forests which are responsible for implementation at the lower levels.

This responsibility of the Forest Departments in the implementation of "social forestry" schemes is almost total. The directives of the Department of Rural Development, mentioned earlier, merely serve the purpose of laying down the limits of permissible action. The formulation of the actual projects at the lowest levels and their implementation, the certification of completion of the projects and, in some cases, the maintenance of the plantations for a specified

period, are all the responsibilities of the Forest Departments. The implementation agency for the NREP projects is, of course, the District Rural Development Agency (DRDA). But, in practice, the DRDA has neither the technical competence not the will to question the departments of Forests, Irrigation and Public Works. The pattern of funding also strengthens the autonomy of the Forest Department. In Madhya Pradesh, the funds for "social forestry" schemes are put at the disposal of the Divisional Forest officers thus giving the Department almost complete independence in using the funds.

While the Forest Departments have the technical competence and therefore must be associated with the "social forestry" schemes, it does not follow that the entire responsibility for the implementation of the schemes should be left to them. These departments lack suitable staff and infrastructure (like office site) for the implementation of "social forestry" schemes. Further they are inexperienced, untrained and unwilling to work with or through community participation. And, in most cases, as the plantations are on common land, the Department feels little responsibility towards their maintenance and protection. Thus, the failure of implementation is primarily due to administrative reasons and due to lack of proper project planning.

D. Finally, the almost complete neglect of the returns from the afforestation programmes under social forestry is surprising. A programme on which hundreds of crores of rupees is spent every year, and which is inefficiently implemented, and which yields almost no return, will soon be discredited. Since forestry projects are potentially highly remunerative (13), even if they are only for fuelwood and fodder, it is a pity that mechanisms are not being worked out which would bring back to the State revenues even a small part of the benefits of afforestation. It is possible for the governments to recover the costs on afforestation without compromising their social objective of poverty-reduction.

To take an example, the government may provide small plots of land to the poor for growing trees, give them maintenance wages for a number of years (say from NREP funds) and bear the cost of capital. From the sale proceeds of the produce (first crop), the government may deduct an amount equal to the wages paid and the cost of capital (with or without interest) and leave the balance with the farmer. Since the gross returns would be greater than the gross costs (otherwise the project need not be undertaken), the government can recover its expenditure easily. The small farmers shall gain the land, the surplus produce of the first crop and the total produce of the subsequent crops in addition to the wages for several years.

This is, of course, just an example to illustrate that the objectives of "social justice" and "efficiency" in the use of financial resources are not contradictory objectives. Various alternative schemes may be formulated depending on the nature of the species grown and other technical and organisational factors. Each scheme, however, would require detailed project planning and preparation. Such projects may be prepared by a government agency or by the NGOs. It is also worthwhile to examine the feasibility and

desirability of setting up public sector undertakings for afforestation programmes. The success of the corporate form of organisation in the forestry sector should be examined seriously in the government circles also.

There are two other aspects of the budgetary resources which need some examination. The first relates to the IRDP funds. As already noted, IRDP funds have not been used for afforestation programmes on any significant scale though provisions exist for such use. IRDP funds would be particularly useful in cases where saplings are distributed. The subsidy on saplings serves no purpose and is an easy source of corruption. Further, distributing saplings to poor farmers without supportive measures like irrigation lead to low survival rates. It is worth examining whether and how the distribution of saplings can be coordinated with IRDP loans and subsidies.

Finally, the problem arising out of the multiplicity of budgetary heads and types of afforestation and related schemes needs to be examined. Multiplicity can lead to over-finance and lack of coordination. It is possible for an area to receive funds for afforestation from, say, the Forest Department, the NREP, and other special area programmes. In this context, we have to see what the setting up of another high-powered institution, the NWDB, will be able to achieve.

2. BANK FINANCE: The major problem of the budgetary resources is the inefficiency of use. The major problem with bank finance is that it has gone to the wrong people.

One reason for this is the collateral needed for obtaining bank loans. Banks lend on the security of land owned or land possessed on long-lease. The tree crops can be hypothecated. Bank finance, therefore, can flow easily to the private landholders only. However, even among them, the very small farmers may become ineligible because of the banks' emphasis on "economic units". It is not clear whether the bank loan provides for the maintenance of the peasant for the years he has to wait for the produce. If such a provision does not exist, then only the large and rich farmers can afford to plant trees on their lands.

However, it is not the large farmers who have been the real beneficiaries of bank loans. The principal beneficiaries have been the user industries. WIMCO, a multi-national company, has started a scheme of planting poplars in Haryana, Punjab and Uttar Pradesh, the grain belt of India. The package scheme includes the supply and planting of seedlings, subsequent extension services and a buy-back assurance to farmers. The scheme has been designed to be implemented in two phases involving total refinance assistance from NABARD of Rs. 107 crores. The NABARD has approved the scheme and already sanctioned money for the first phase. (14)

It is interesting to note that NABARD's total commitments was only Rs. 80 crores at the end of June 1984. The very next year it agreed to sanction Rs. 107 crores for a scheme which would benefit a multinational company and use up land in the best agricultural regions. Moreover, in 1984, WIMCO consumed wood, splits and veneers worth Rs. 9 crores only (15). Clearly, the company wants to have captive plantations far in excess of its needs.

WIMCO, of course, is not the only example of NABARD's weakness for financing large schemes sponsored by the user industries. Similar loans have been granted, among others, to Bhadrachalam Paperboard Ltd., an associate of the multinational company I.T.C. (Indian Tobacco Company). (16)

What is equally regrettable is that this finance is made available at low interest rates. The ultimate lending rate is 12.5% per annum. The real rate of interest, i.e. the rate of interest adjusted for inflation, is much lower. Since bank loans for farm forestry have principally benefited the large user industries and since the returns from forestry are high (see Annexure IV), there is no justification for the low rates for such long term finance. The distortions this may create is illustrated by the WIMCO example. A high rate of interest for farm forestry is necessary if good farm land is not to be diverted away from agriculture.

3. PRIVATE FINANCE: The most disturbing feature of the private companies entry into the forestry sector is that large scale transfer of land may take place from the peasants to the urban rich. The "modus operandi" of these companies is as follows. They ask the urban investor to buy an acre of land on which eucalyptus will be grown by the company. The investor has to pay a sum of Rs. 30,000 which, presumably, would cover the cost of land purchased and part (or whole) of the cost of growing eucalyptus. After six years, the investor would get back more than three times his investment. The investor, therefore, simply provides finance and owns one acre. The company operates the land, i.e. plant saplings, nurtures them, and markets the produce. If one thousand investors decide to give the necessary sum, the company then operates 1,000 acres.

Clearly this is a novel way of bypassing land ceiling laws and yet operating large tracts of land. The process involves the transfer of either "common land" or "peasants land" to the urban rich who, in effect, are absentee landlords. This has disturbing implications. With the companies being in actual control of large tracts of land, the rural poor being already dispossessed of the land and the urban investor having little interest in owing one acre of afforested land far away from his town, the pressure for the dismantling of the land ceiling laws will be enormous. Forestry may act as the Trojan Horse for the entry of the corporate sector into agriculture.

The entry of private companies in afforestation projects must be ended immediately. There is no justification for their entry. As already shown, there are enough resources to achieve the targets of afforestation even if private capital is not mobilised for this purpose. The danger of large-scale entry of private companies is acute because the expected rates of profits are very high. To give a few examples: S.K. Farms promises Rs. 1,20,000 after six years for an investment of Rs. 30,000; Asian Townsville Farms Ltd. promises Rs. 95,000 and other benefits after six years in return of Rs. 30,000 and United Farms Ltd. assures a return of 42% per annum. Such returns will easily lure private capital with highly disruptive consequences for agriculture and the peasantry.

SUMMARY: In this section we noted that the unsatisfactory performance of social forestry programmes is principally due to lack of proper project planning, top-heavy planning and the inadequacy and inappropriateness of the Forest Department in the implementation of the schemes. It was also pointed out that there is no necessity for running the social forestry schemes in a manner akin to charity. The need, as far as budgetary resources are

concerned, is for fairly extensive organisational and policy changes. Bank finance, on the other hand, has benefited large user industries. A hike in interest rates for farm forestry and relaxation of collateral norms may be considered. Finally, the dangers posed by the entry of private capital into afforestation programmes was highlighted and the necessity for curbing entry was emphasized.

[I am grateful to Dr. R. K. Tewari, Prof. K. N. Kabra and Mr. Shekhar Singh for discussions and valuable suggestions. I thank also the Corporate Studies Group, IIPA; Mr. Arvind Khare of SPWD and Mr. N. C. Saxena of NWDB for making available extremely useful information.]

NOTES

1. See Annexure II of "Wastelands Development" (mimeo).

2. ibid, P(ii)

3. ibid, P(ii)

4. Banerjee, A.K., "Reclamation of Wastelands in Laterite Tracts of Eastern India", in Economics of Wastelands Development, SPWD, 1984.

5. Mathur, H.N., et. al. "Benefit-Cost Ratio of Fuel-cum-fodder Plantation in Doon Valley", Indian Journal of Soil Conservation, 1979.

6. Seventh Five Year Plan, Planning Commission, Govt. of India, p 55.

7. ibid, p. 70

8. This section is based on the Annual Reports of the NABARD

9. Assuming that refinance to the extent of 80% of the loans is available.

10. The Economic Times, dated 12.8.86. Interestingly, CROSS also received Rs.45,000 from the NWDB in the same year.

11. According to the State Forest Departments 75m. hectares is classified as forests. However, according to the National Remote Sensing Agencies the forest cover was about 55m. hectares during the mapping cycle of 1972-75. In the mapping cycle of 1980-82 the area was 46m. hectares. Thus, on an average, 1.5m. hectares of forest cover is being lost annually.

12. Study by Dr. R. K. Tewari entitled "Implementation Process in the National Rural Employment Programme" (mimeo), IIPA.

13. See Annexure IV.

14. Annual Report of NABARD, 1984-85

15. Annual Report of WIMCO, 1984

16. The Official Stock Exchange Directory, Bombay, 1986.

17. This section is based on newspaper advertisements by these companies.

ANNEXURE I

BUDGETARY RESOURCES FOR AFFORESTATION AND RELATED PROGRAMMES FOR 1985-90 (PLAN OUTLAY ONLY)

	Types of Budgetary Resources	Amount (in Rs. Crores)
a)	Forest Departments	1,859
b)	NREP & RLEGP (20% of funds)	846
c)	Special Area Programmes, (20% of funds)	825
d)	Related Programmes	
	(i) Plantations & Horticulture	150
	(ii) Animal Husbandry, Environment, Soil Conservation (5% of funds)	112
e)	IRDP & TRYSEM (5% of funds)	160
f)	NWDB	
	(i) Grants-in-aid to NGOs	25
	(ii) New Schemes	81
	Total	4,058

[Sources: (1) Seventh Plan, (2) NWDB]

ANNEXURE II

BANK LOANS FOR AFFORESTATION AND RELATED PROGRAMMES FOR 1985-1990

	Purposes/Types of Bank Loans	Amount (in Rs. Crores)
a)	For Afforestation	125
b)	IRDP Credit Component for Ffforestation (5% of total)	300
c)	For Plantations, Horticulture, Land Development (20% of total)	135
	Total	560

[Source: See Text. Based on Annual Reports of NABARD]

ANNEXURE III

EXTERNAL ASSISTANCE FOR AFFORESTATION (AUTHORISATIONS)

Year	Donor	Recipient State	Amount (in Rs. Crores)
1976	IDA	M.P.	3.00
1979	IDA	U.P.	17.25
1980-81	IDA	Gujarat	27.75
1981-82	USAID	M.P.	9.75
1981-82	USAID	M.P.	7.50
1981-82	IDA	W.B.	21.75
1982-83	USAID	Maharashtra	18.75
1982-83	IDA	J&K/Haryana	25.58
1983-84	USAID	Maharashtra	18.75
1983-84	USAID	M.P.	8.25
1983-84	IDA	Karnataka	20.25
1983-84	CANADA	A.P.	30.53
1984-85	IDA	Kerala	23.85

[Source:Report on Currency & Finance, 1984-85, Reserve Bank of India].

Note: The RBI data, for some reasons, does not include Swedish aid to Social Forestry scheme in Tamil Nadu, Orissa and Bihar totaling 55 million Swedish Kroners (= Rs. 7.98 crores at IMF parity). It also excludes $17.50 million from the International Fund for Agricultural Development Assistance and World Food Programme assistance in kind.

ANNEXURE IV

RETURN FROM FARM FORESTRY

Species Incomes of	Number of Years	Ratio of Gross to Gross Costs Cultivation
1. Bamboo	10	4.19
2. Tamarind	8	5.43
3. Eucalyptus-hybrid (rainfed)	8	5.53
4. Neem	4	2.41
5. Singapore Kapok	7	6.58
6. Siris	6	2.70
7. Casurina	8	3.75

Notes: (1) Ratios calculated on the basis of data given by NABARD in its "Guidelines for Financing Farm Forestry Schemes" Annexure III.

(2) Gross Costs and Incomes refer to the Totals for the number of years indicated in Col 2.

(3) Interest payments are not considered. The purpose is to compare the returns with the rate of interest. Amount approximately doubles in 7 years if the rate of interest is 10%.

SOME ISSUES RELATING TO THE USE OF FOREST RESOURCES IN INDIAN INDUSTRY

Sumitra Chaudhuri and Dinesh Pratap

This paper primarily seeks to raise certain issues with regard to the usage of forest produce. The emphasis here is on the commercial use of forests as an input into industry and as an ingredient of other essential commercial activity, e.g. in construction. The other important aspect, namely that of forest produce for fuel, is a somewhat different subject and finds mention in our paper only in passing.

Several studies have been made by governmental and non-governmental agencies, in regards to total forest cover, sustainable exploitation levels, socio-economics of social forestry programmes, wastages incurred in current logging practices, environmental degradation on account of deforestation, prospects and issues involved in afforestation programmes. We do not intend to enter into these fairly familiar issues, except to the extent that it has a bearing on our arguments and establishes the background.

Government sources (1 and 2) indicate that the "recorded" consumption of wood for industrial use accounted for 13.5 million cubic metres (MCM), or 31% of total consumption of 43.4 MCM in 1979-80. This, without doubt, is a very gross underestimate. It may be recalled that the working group on Energy Policy has estimated fuelwood consumption in 1975-76 alone at 133.1 million tonnes (MT) (3 and 4) which is approximately 220 MCM. Further, the Central Forestry Commission has estimated (4) that the demand for industrial wood in 1985 would be 30.03 - 35.18 MCM and that for fuelwood 202 MCM. The estimates for the year 2000, as made by the Commission are: 47.18 - 64.45 MCM for industrial wood and 225 MCM for fuelwood.

One thing obviously emerges, namely, the rather wide discrepancy in the estimates of actual consumption of wood. Thus, the "recorded" out-turn of fuelwood in 1979-80 of 30 MCM (5) is only <u>one-seventh</u> of the estimate made by the Working Group on Energy Policy.

These differences in <u>orders of magnitude</u> regarding forest utilization underscore the importance of more accurate assessment. No policy, however well-meaning, can either be correctly conceptualized, nor implemented, in the absence of reliable data regarding forest resources, level and pattern of utilization and the socio-economic dynamics determining this utilization in the face of the availability/non-availability of substitute products. In this paper, we shall only touch on the latter two aspects.

We have sought to make an attempt to estimate the level of requirement of wood as an industrial input (i.e. timber process industries), by a somewhat indirect method. As is well known the magnitude of requirement of any intermediate product can be estimated by comparing the activity level(s) of its different consuming centre(s), on the basis of fixed coefficients and constant returns to scale. However, such an input-output matrix is obviously not available, nor can its construction be anything less than a gargantuan task. Our method, therefore, has been, in that sense, piecemeal and geared to the manner in which data is available for the Indian economy.

We have started the process from the Annual Reports of wood based industrial companies. At the very outset, we wish to pre-empt any criticism regarding the coverage; we are the first to admit that our coverage has been small, dictated by considerations of time and the availability of Annual Reports. However, the variations in our results tend to support the hypotheses that a substantial widening of the coverage would not yield answers very much different from what we have presented in this paper; further, the implicit range of variation is statistically within acceptable limits, a very far cry indeed from the differences in orders of magnitude evident in all official publications.

Our period of reference has, largely on account of the availability of various macro-data, been 1980-82. On the basis of various Annual Reports of pulp paper and paper board, newsprint, and match companies, a relationship between the total requirement of forest produce and the physical quantum of production value of raw materials consumed and the value of output were separately worked out. This was made possible by the relevant schedule relating to consumption of raw materials in all Annual Reports of public limited companies. This schedule lists the raw materials consumed both in physical and value units. For value of output (before excise duty), where the figure was not given directly, the average limit value for opening and closing stocks for that financial year was used to compute the value of output from physical units. In a few cases, the Annual Reports pertained to years prior to our reference period. Here, the value items were adjusted by the relevant price index in order to bring it into our reference period.

Once these tentative coefficients had been computed, the production figures, as given by the Directorate General of Technical Development, Government of India (DGTD), could be used in order to arrive at the implicit consumption of wood by these industries. However, the DGTD figures pertain to the larger registered companies falling within the purview of the DGTD. A more exhaustive coverage is given in the Annual Survey of Industries (ASI), of the Central Statistical Organization (CSO) of the Government of India. The ASI Summary is available only up to 1981-82. The ASI has two two-digit classification levels relevant to us; namely, 27 - "Manufacture of Wood and Wood Products, Furniture and Fixtures", and 28 - "Manufacture of Paper & Paper Products and Printing & Publishing and Allied Industries." These two-digit levels are further subdivided into a number of three-digit level subsections, for which data on the value of raw materials consumed and the value of output, along with various other information is provided. Of the wood based industries, only one, namely the match industry, comes under a different classification, namely 317.

The item "Raw materials consumed", could conceivably include non-wood items, such as chemicals, as for instance, in the match industry. Some care therefore has to be exercised in using this particular head in the ASI statistics. In the cases of the match industry, study of four years Annual Reports of the Loading Match Company clearly gives an indication as to what component of raw materials consists of wood. For other industries, wood (along with bamboo, grasses and reeds) comprise all or nearly all of the total cost of raw materials. For classification, it should be mentioned that electricity, fuel, water and stored items do not fall under the expense head of "raw materials".

Some adjustment were also necessary, in respect of some of the raw material items. Pulp, for instance, is purchased (often imported), to meet the total requirements of certain paper/ newsprint factories. To arrive at the total wood input (direct and indirect) to the factory, the wood equivalent of this pulp has to be computed first. For modern factories, the pulp yield is generally 60-80%, for paper-grade pulp and substantially lower for dissolving-grade pulp. On a rough and ready basis, a figure of 1.25 tonnes of pulp (i.e. about 65% pulp yield) has been adopted for computing the wood equivalent of paper grade pulp.

Some adjustment has also been made in respect to certain items of partly processed wood, such as splints and veneers; an adjustment has been made for value addition at an earlier point. With regard to the ASI sub-sectors, in order to avoid double counting, all those subsectors which could conceivably be consuming any output of another subsector, have been ignored. Thus, while the subsectors, 270 and 271, namely, "Manufacture of Veneer, Plywood & their product" and "Sawing & Planning of Wood (other than plywood), have been considered, manufacture of "wooden & cane-boxes, crates..." (272), "Wooden industrial goods..." (273), "wooden furnitures & fixtures (276), have been excluded. To the extent however, these excluded sub-sectors would have used direct unprocessed logs, our estimates will be on the lower side.

Similarly, while the subsector (280), namely "Manufacturing of Pulp, Paper and Paper Board, Incl. Newsprint", has been considered, all other subsectors of 28 have been excluded, since they either use paper or paper-board to manufacture other articles, or represent further upstream activities, such as printing & publishing.

Sub-sector 317, which is the manufacturing of match boxes, has been separately covered.

To adjust for international trade in timber and intermediate products, especially pulp, the value of net imports in the reference period was deducted from the figure given for value of "raw materials consumed" in the ASI statements.

In general, the estimates based on the value of raw materials consumed were consistent in their distribution, and also higher than that based on the value of output. The latter gave too widely dispersed results, while the generally lower implicit timber consumption figures may possibly be explained to a great extent by lower unit value realization by smaller factories, as compared to the large public limited companies, with which we have been working. A summary is presented in Table-1 below:

(In passing, it may be mentioned that the ASI coverage for the match industry was for 408 factories)

TABLE-1

Implicit levels of timber consumption from the value of raw materials consumed by (direct) timber using industry groups as given in the Annual Survey of Industries, 1981-82:

Industry group	Mean & coefficient of variation (C.V) of estimates		
	N	x(MT)	C.V
A) Wood & wood	8	2.76	15.3%
products	12	2.83	37.6%
B) Pulp, paper &	8	8.76	16.2%
paper board	12	9.01	38.1%
C) Match	7	0.44	14.7%

Note: Net imports of timber & pulp has been adjusted for.

With a total value of output of Rs. 105.4 crores (1980-81) which implied that the leading manufacturer (WIMCO) accounted for 34% of total production, if unit values were the same. If, however, we assume that the small-scale manufacturers unit value of output is 20% lower than that of WIMCO -a most realistic situation - WIMCO's share would be about 30%. Nevertheless, in computing the wood requirement for the industry, no such assumption was made.

The ASI, however, covers only the Registered factories, and not the unregistered ones. Hence, the estimates made in Table-1 refer only to the registered sector. Further, while in pulp, paper & paper board manufacture unregistered factories may have little or no role, this is obviously very far from the truth in regard of timber use. The only way to make this adjustment is on the basis of the relative value added by the registered and unregistered components of these industry groups, as given in the National Accounts Statistics for the sector "wood & wood products, furniture & fixtures", the total value added (Regd. plus uregd. sector) is 9.725 and 10.016 that of the value added by the Registered sector alone, for 1980-81 and 1981-82 respectively.

The correction for the unregistered sector can thus be made by simply multiplying the estimates for the "Wood & wood products." industry group in Table-1 by a simple average of 9.725 and 10.016, i.e. 9.8705.

An obvious criticism against making such an adjustment is that those ratios are based on the totals of the value added for the overall sector 27 and not the relevant subsectors 270 and 271, which have formed the basis of our estimates. The underlying assumption in making such an adjustment is that the interse subsectoral distribution of value added in the unregistered sector is similar to that in the registered sector. In any case, (a) subsectors 270 and 271 account for over 73% of the total value added of sector 27, for the registered factories and (b) 272 through 279, being based on the output of 270 and 271, a certain degree of proportionality can reasonably be expected. Hence, we feel that the adjustment suggested in the previous paragraph is legitimate. Although the total value added by sector 28, i.e. "paper, paper

products..." is over 1.5 times that of the value added by the Registered factories, no adjustment has been done here, since most of the unregistered factories can be expected to be in the upstream area (paper articles/boxes, printing,and bookbinding). The final estimates are given in Table-2.

TABLE-2

Estimates of annual total wood felled for industrial use in India and the equivalent estimated forest area clear-felled, reference period: 1980-82

Industry Group	Timber felled: Regd factories	Timber felled: Regd & Unregistered factories	Timber felled (Total Regd & Unregd)	Equivalent forest area annually clear felled	
	Million Tonnes		Million M3	Million Ha. A	B
A) Wood & wood products	2.76	27.24	45.40	1.36	1.82
B) Paper, pulp & paper board	8.76	8.76	14.60	0.44	0.58
C) Match Box	0.44	0.44	0.73	0.02	0.03
Total (A+B+C)	11.96	36.44	60.73	1.82	2.43

Range: ± 15%

The equivalent timber in terms of MCM has been computed by taking an average specific gravity for wood of 0.6. The equivalent forest area has been worked out on the basis of: (A): 20 tonnes per hectare per annum, and (B): 15 tonnes /Ha/p.a. Most plantation project profiles indicate lower range yields (on maturity) of about 20-24 tonnes/Ha. The figure of 20 tonnes/Ha/p.a is derived from this. It is generally stated that the natural annual increment of Indian forests is 0.5 tonne/Ha; thus, 20 tonnes/Ha/p.a, in this context, means 40 years average longevity; in other words, the total timber felled for industrial use, as shown in Table-2, estimate (A), corresponds to the clear-felling of 1.82 million Ha of 40 year old forests, per annum. An alternate assessment, estimate (B) is given, on the basis of 15 tonnes/Ha/p.a.

Before concluding this section, one would like to make a few observations. First, the estimates made above offer an alternate way of evaluating industrial consumption of wood, and should be viewed more in this light than anywhere near being pucca estimates. Second, in general, we have

tried to tend to err on the side of underestimation, rather than the other way round. Third, any under reporting of production can be adjusted for by making a prorate upscaling.

In this section, we would like only to venture some remarks on some of the issues involved in finding and popularizing the use of substitutes for timber. A very considerable quantum of wood and bamboo, currently being used for commercial applications, can possibly be substituted by metal and synthetic products. Scaffoldings and props used in construction, pitprops in mining, door and window frames, railway sleepers, truck bodies and interiors for railway coaches, construction of packing cases, and furniture readily come to mind. In areas of structural uses, steel is the obvious substitute; while for packing materials, synthetics present the alternative. Door and window frames made out of extruded aluminium are in use, although it is phenomenally expensive, besides being highly energy intensive to manufacture.

There are two different kinds of issues involved here. First, where the concerned consumers have a fairly elastic budget and can go in for fancy things like aluminium door and window frames, price is obviously not the issue here, The purchase decision is being based on a completely different set of priorities. Second, where the concerned consumers have restricted expenditure budgets and are price conscious. This is by far the larger component of the market, but here again a distinction has to be drawn between final consumer demand and intermediate demand. An individual contemplating the purchase of an item proposes to live with the product. A building contractor on the other hand, views the purchase of a scaffolding (or the materials thereof) purely in the light of its utility; he would have little regard for elegance or any other peculiarly individualistic idiosyncrasy.

Most of the industrial wood is going into the economy as an intermediate good: pitprops, construction, and railway sleepers. Here, provided the substitution of wood by metal or some other product is technologically feasible (which in most cases it is) the decision to go in for one or the other is purely determined by costs. Costs are of two kinds. The relative market prices and the expected longevity. In almost every case, the timber substitute has a greater longevity than timber. Yet timber finds more common acceptance, despite the fact that its price has risen very sharply in the recent past. The question we pose here is: why would the building contractor prefer, say, a bamboo scaffolding which would last say, two years, and not a steel tubular scaffolding which would last for 15 years, even when the latter costs less than 7.5 times that of the bamboo scaffolding. The answer lies in high interest rates and the consequent reluctance to incur larger cash outlays. The relative prices at which substitution of the cheaper product, timber, can become possible by the more expensive substitute, say steel, can be worked out under different assumptions.

Let the price of timber be PB, per unit of some designated use

The price of the substitute by PS, per unit of the same designated use

The longevity of the timber product be T

The longevity of the substitute product be T+AT

The interest rate be denoted by r

The condition for the relative prices, at which it becomes possible for the substitute product to pose a reasonable alternative to timber, would then be given by:

$$\frac{PS}{PB} = \frac{I}{(I+r)AT} \quad \frac{(I+r)\ T\ (I+A)-I}{(I+r)\ T-I}$$

(The expenditure series starts with PS and PB in the initial period, with further expenditures of PB at the beginning of every subsequent Tth Period.)

Fixing some values for T,A and r, some relative price substitution thresholds have been worked out and are given at Table-3. The threshold price ratios in Table-3 have been expressed in terms of the price of timber as a percentage of the substitutes' price. If the price of timber were to be above this relative price, substitution would become a possibility.

TABLE-3

Threshold price ratios of timber vis-a-vis its substitute

	r = 18% p.a.					r = 24% p.a.				
	A 1	3	5	10	15	1	3	5	10	15
T										
1	54.1%	31.5%	24.2%	18.2%	16.4%	55.4%	33.5%	26.7%	21.4%	21.4%
2	58.2%	38.4%	32.7%	28.9%	28.3%	60.6%	42.6%	37.8%	35.3%	35.0%
3	62.2%	45.4%	41.2%	39.3%	39.2%	65.6%	51.4%	48.6%	47.6%	47.6%
4	66.0%	52.1%	49.4%	48.5%	48.4%	70.3%	59.6%	58.0%	57.7%	57.7%
5	69.6%	58.4%	56.7%	56.3%	56.3%	74.6%	66.8%	66.0%	65.9%	65.9%

The objective of presenting these fairly obvious price ratios is to underscore the extent of dilution of considerations of longevity, by interest rates alone. Further to the above are factors which are important, but less easy to quantify; namely, absolute restrictions on fund availability, and work practices.

In items like pitprops and railway sleepers, which largely fall into the ambit of the government, immediate shifting away from timber is possible by a combination of fiat, and can be adjusted to hasten the process of substitution. In many other areas, innovative application engineering, the use of coated and cladsteels, can seek to create the technological basis for substitution of timber in industry. We would like to lay emphasis on the need to do so, since in many of these applications hardwoods are used, and further the possibility of exercising such a shift is conceptually less difficult than in the case of fuelwood, where technologically feasible and sufficient alternatives are not currently available. Further, the substitution in the case of fuel is one to one, i.e. providing for equivalent heat value in the

form of some other fuel. In the case of materials, the payoffs (physical) in terms of substitution is of a different order of magnitude. Thus, weight for weight, steel in most structural applications would substitute 50 times and more of timber, taking account of at least 10 to 25 years' useful life for steel, as compared to one to two years for timber or bamboo.

The technical, economic and other considerations involved in such substitution need to be gone into greater depth, for it opens out the possibility of a rapid deceleration in the felling of timber for industrial use. In the first instance, this could lead to an easing of the fuelwood crisis and ultimately, to reduced pressures on the scarce and depleted forest resources of the country.

NOTES

1. Development of Forestry and Forest Products - Country Profile - India, 1981 Government of India, Ministry of Agriculture.

2. India's Forests - 1984, Central Forestry Commission, New Delhi.

3. Report of the Working Group on Energy Policy, Government of India, 1979.

4. Report of the Fuelwood Study Committee Planning Commission, Government of India, New Delhi, March 1982.

5. Same as in 1., above.

6. National Accounts Statistics, 1970-71 to 1983-84 CSO, Ministry of Planning Government of India, January 1986, Statements 41 and 42.

FORESTRY INFORMATION SYSTEMS FOR NGOs

SURVEY REPORT AND RECOMMENDED OUTLINES

D. Raghunandan

Introduction

1.0 This paper seeks to present a tentative outline for an Information System on Social Forestry for use by NGOs, based on a study of NGO needs and available information systems. The need for such a system has been expressed especially by grassroots organisations involved in social forestry work in various parts of the country. Professional organisations working in this area have also felt that information systems available to NGOs are not only limited in scope but also not specifically organised for systematic query based retrieval and dissemination. Informal meetings of several organisations prior to this Consultation had discussed the issue and suggested that a survey of information needs of grassroots NGOs and of information systems available in some key official institutions be undertaken to form a basis for broad recommendations regarding a proposed information system.

2.0 About 75 organisations engaged in social forestry at the grassroots levels were sought to be surveyed through questionnaires (questionnaire is appended to the preparatory meeting report). These organisations were identified through the two directories on environmental groups (prepared by the Environmental Services Group, New Delhi) and other sources. It was decided to seek responses from this not very large sample so as to ensure both intensive coverage of organisations deeply involved in forestry activities as well as to avoid a very low percentage of response which may occur with a very large initial sample. At the time of writing this paper, about 20 organisations had responded to the questionnaire.

2.1 About ten official institutions were surveyed through personal visits to these organisations. Information was sought on the basis of a standardised format (For details see profiles of Institutions.)

3.0 The information needs survey of NGOs covered chiefly:

A) information requirements or felt needs
B) types of information sought, sources approached and responses obtained
C) areas of difficulty in obtaining information
D) perception of available information systems
E) suggestions for effective information systems

3.1 The institutional survey covered such aspects as:

A) research activities
B) area of specialisation
C) research personnel and other resource persons
D) range of information available and system or organisation thereof
E) facilities available
F) linkage, if any, with NGOs
G) dissemination of information

NGO Needs and Suggestions

4.0 Types of Information Needed: The questionnaire had asked NGOs to list types of information they require on social forestry and, rather than giving a predecided check list, had left categories open-ended while suggesting some broad areas such as legal aspects, work of other NGOs,

4.1 The most strongly expressed needs were, in the order given below, for:

A) published material and references
B) technical information (including techno-economics)
C) government programmes and policies (including availability of seedlings and land for social forestry)
D) sources of funding

To a lesser extent, respondents also indicated need for information on:

F) experience of other NGOs
G) resource persons for consultancy services/support
H) communication programmes

4.2 In respect of published and reference material needs, the following areas were highlighted:

A) news on social forestry activities in various parts of India
B) books and literature on social forestry and agroforestry
C) tropical forest management
D) raising of nurseries

4.3 The major technical information needs identified were:

A) suitable species for planting at different heights and locations
B) fodder plants for hill areas
C) effects of deforestation on tropical forests, soil, and water
D) suitable species for agroforestry (especially under irrigated conditions)
E) cost and feasibility analyses of social forestry programmes
F) bio-indicators of air and water pollutants
G) plant management and protection
H) species to check pollution
I) new developments in agroforestry
J) soil testing
K) irrigation management

4.4 On information of government programmes and policies, the following were emphasised by respondents:

A) land allotment for forestry
B) government assistance to NGOs (other than funding)
C) government afforestation/tree plantation programmes
D) government agroforestry programmes
E) state and central laws relating to people's rights over forests

4.5 While source of funding has also been identified as a major information need by most respondents, it does not loom as large as might have been expected, perhaps because respondents already have some information or

because they regard it to be a part of information regarding government programmes and policies. Various types of information relating to funding sources listed by respondents are:

A) government funding for afforestation programmes
B) foreign funding for afforestation programmes
C) nearest source(s) of funds

4.6 Several respondents have listed information needs relating to work and experience of other NGOs, especially:

A) details of NGOs' afforestation activities
B) cost benefit analyses of NGOs' afforestation programmes
C) NGOs working in agroforestry.

4.7 A detailed list of the various information needs identified, which have been broadly grouped as above, is appended as Annex V.

5.0 Satisfaction of Needs: There was mixed and somewhat confused response from responding NGOs as to the extent to which their information needs were satisfied. About half the respondents, who had approached a variety of sources for information, stated that their needs were being met satisfactorily both in quality and in time. It must be emphasised, however, that remarks made by respondents in this connection, as well as their response to other questions, show that NGOs were by and large dissatisfied with the extent and manner in which their information needs were met.

5.1 About 20% of respondents stated that they had not approached any source for information and were, apparently, already in possession of whatever information they felt they needed. One such respondent stated that while he himself had ready access to information through a variety of formal and informal contacts, and therefore experienced no difficulty in obtaining it, most other organisations in the field suffered greatly from a lack of access to information.

5.2 Of the NGOs who felt their needs had been satisfied, sources approached were evenly divided between governmental and non-governmental agencies. The former included Department of Environment, Wasteland Development Board, State Governments and Forest Departments. There were, however, qualifying remarks made in most cases.

5.3 NGOs reported that, of the agencies approached for information and from whom response was unsatisfactory, most were governmental including those mentioned above.

5.4 Information about other NGOs' experience appears to have been sought only from NGOs. Also, while many respondents wanted communication/media material, they had not sought or known where to seek information about it.

5.5 In sum, there is no clear weightage of responses. As we shall see later, in responses to other questions, the problem appears to be located not in the availability of information per se, but in the randomised character both of location of information and of response quality/time, given the variety of information needs and the lack of identification of specialised information sources. As such, responses to information seeking have also been randomised in effectivity and time.

6.0 Areas of Difficulty and Reasons: About two-thirds of the respondents listed various subject areas in which they had found it difficult, or almost impossible, to obtain information. Maximum difficulty appears to have been felt in respect of technical (including techno-economic) information of various afforestation/plantation schemes. Land availability for various governmental schemes was also noted as a difficult area with several respondents noting that state government and forest departments were not forthcoming with adequate information.

6.1 There was considerable convergence of views regarding reasons for difficulty in obtaining information. In technical information, it was felt that most organisations, both governmental and non-governmental, were either unresponsive or did not have the relevant information and that if they did, it was in a form not usable by grassroots NGOs. It was also observed that NGOs lacked a mechanism for information dissemination and suffered from a lack of professionalism.

6.2 Respondents felt that information regarding government programmes and sources of funding was not forthcoming particularly from state government organisations. There was also a feeling that, besides a tendency to be tardy in providing information, the information, when provided, tended to be sketchy making it difficult for NGOs to initiate action programmes on that basis.

6.3 Several respondents also pointed to the lack of communication material such as posters, exhibitions, slides, and film shows, particularly in regional languages.

7.0 Major Shortcomings of Available Information Systems: Responses of NGOs in this section were, again, expressed in their own words, the questionnaire having provided no leading suggestions. As such, while responses varied considerably in detail, there were several convergent ideas which are listed below in descending order of frequency:

A) poor development of forestry information systems. This was detailed by various respondents as lack of coordination among governmental agencies; lack of proper research work and extension strategies; lack of query orientation and poor response time.
B) information not suited for use by NGOs, detailed as being too technical in content or too general to be of practical use
C) government "indifference" to NGOs and divergence in orientation
D) information unavailable at local levels
E) information unavailable with NGOs

7.1 Most respondents emphasised that compared to other developmental activities, notably agriculture, there is an absence of research and well worked out, economically viable extension schemes which itself seriously impaired the efficacy and operation of available information systems. In other words, the issue of a properly designed, need based information system cannot be addressed in isolation from governmental schemes and programmes and linked research in various R&D institutions. This is a crucial aspect of the responses to the questionnaire and is a running thread in remarks to various questions.

8.0 Suggestions for an Effective Forestry Information System: Once again, while there were a variety of responses, these could be grouped together and listed as follows in descending order for frequency:

A) Nodal (national) Information System
B) Regional/Local Dissemination Centres
C) Concerned governmental agencies to disseminate information to all NGOs through better coordination amongst themselves
D) No particular need for such a system (since the problem lies rather in programme content)
E) Social Forestry camps and local newspapers
F) Building the envisaged system through gradual assessment of NGOs' felt needs.

8.1 An overwhelming number of respondents suggested, in roughly equal numbers, either a nodal (national) information system or regional level dissemination centres. In both cases, the suggested outlines of the proposed information system were:

A) Technical information including location specific species identification, ecological details and techno-economics
B) Activities and experiences of other NGOs
C) Exact procedures and details regarding governmental programmes and schemes
D) Critical news reportage
E) Simple format enabling use by NGOs

8.2 The major difference between the two approaches advocating national or regional level nodes appears to be the emphasis by those advocating the latter on information in regional languages and ease of dissemination through proximity. Clearly, these are extremely important considerations. In fact, these two broad trends of suggestions may be seen as complementary rather than contradictory. One may envisage, for instance, a national nodal agency disseminating information in commonly understood languages to regional centres for further dissemination in local languages.

8.3 Respondents did not, however, indicate clearly proposed mechanisms for operationalizing such nodal national/regional information systems. While some appear to feel implicitly that this can be achieved through better linkages between government agencies and NGOs, some respondents asserted that such information systems should be run by NGOs through an NGO network.

Conclusions of Needs Survey

9.0 Felt needs of grassroots NGOs for social forestry information, as shown through the survey, may now be summarised. The attempt here is to qualitatively draw, from responses to the questionnaires, generalisations for recommendations towards an envisaged need-based information system for NGOs.

9.1 Types of information required comprised, chiefly, published material and reference; technical information including techno-economics and resources persons/consultancy support; government programmes and policies specifically including availability of land and seedlings; sources of funding; communication material; and experiences of other NGOs.

9.2 Quality of information required is that it neither be too technical nor too general and in a form enabling ready applicability to ongoing/envisaged NGO programmes. Information in regional languages is preferred.

9.3 Source of information preferred by NGOs is a single agency intimately linked to forestry programmes. Such an agency may be either governmental or non-governmental, but should ensure overall coordination with ongoing/envisaged governmental programmes and obviate the need to seek information from diverse sources. Such functional qualities being equal, an NGO run information system may better understand grassroots NGOs' needs and thereby meet these needs more effectively. Regional "windows" are preferred or, at least, desirable along with a national, nodal information system.

9.4 Information services required are critical reportage of developments in forestry including activities/experiences of other NGOs; exact procedures and details regarding governmental programmes/schemes and source of funding; regular and query based dissemination of technical information and communications material for advocacy.

Recommended Outlines of the Proposed Information System

10.0 As mentioned earlier, informal meetings on the proposed forestry information system (FIS) were held with several NGOs with special interest in forestry and who may be termed professional groups rather than grassroots organisations. Many of these groups were involved, to varying extents, in collection of forestry information and dissemination to NGOs in the field, either as part of their regular activities or in response to queries from these NGOs. The FIS was also discussed with several other organisations and individuals working in forestry or in the area of information systems per se. The recommendations which follow in this section are based on these discussions as well as on the results of NGO needs survey.

10.1 At the informal meetings with the "professional" NGOs it was felt that grassroots NGOs' needs for information were far from satisfied. There were varying assessments of the types of information required reflecting major activities of the various organisations and thus, those areas of information usually sought from them by NGOs in the field. For instance, professional NGOs dealing primarily with community organisation or conscientisation on issues concerning civil and human rights, received queries primarily relating to legal issues such as rights of forest dwellers, and tribal peoples; whereas primarily technically oriented organisations may receive queries relating to choice of species, and effects of deforestation. As we have seen from the survey, however, NGO's needs embraced all these aspects, and the choice of sources approached for information was usually based on the type of information sought, leading to multiplicity of approaches.

It was observed during the meetings that while governmental and affiliated institutions have large stores of information, these were not always accessible or directly useful to the NGOs and some participants even suggested that the information was of no use whatsoever. On the other hand, the survey shows that in fact NGOs look to governmental institutions for much of their information needs but are confronted with tardiness of responses, inadequate information and multiplicity of agencies. Therefore, while the general hypotheses of various professional NGOs regarding information needs of grassroots level voluntary organisations may be said to have been broadly substantiated by the survey, it has brought out with minimal ambiguity and greater clarity the needs and expectations of NGOs for the envisaged FIS.

10.2 The survey of various official agencies engaged solely or in part in forestry and related activities (see section on profiles) has shown that these are indeed repositories of substantial quanta of information needed by NGOs, but they have no institutionalised mechanism to disseminate this information to NGOs. Importantly, it was also noted that there is little linkage between research activities and the associated information (storage) and ongoing/ envisaged programmes on social forestry.

In this sense, there is a severe mismatch between information available and the information needed by grassroots organisations. Additionally, as discussions with several NGOs and comments made by them during the survey have shown, there is also mismatch between the general run of governmental programmes on social forestry and the needs of local communities as perceived and expressed by NGOs working with them. In considering the outlines of the FIS, therefore, one of the major attributes required of it is the ability to bridge these gaps and, to the extent possible, overcome these mismatches. It must be emphasised, of course, that an information system by itself could not adequately tackle let alone solve, the basic issues causing such mismatches which must, in fact, be addressed by government in all earnestness.

10.3 Keeping the above in mind, the proposed FIS can clearly not be merely a system for collection, classification and dissemination of miscellaneous items of information. It should rather be purposive, critical and interpretative; i.e. it should address itself to the specific operational needs of NGOs and through them the needs of the communities in which they work, selectively compiling and suitably disseminating such of the available information as relates to these needs; a functional manner directly adaptable to action programmes. This would enable the FIS to act as a catalyst for the generation by specialized agencies of need-based information either through direct research or through purposive compilation of known researches and studies.

10.4 The major problem felt by NGOs is the multiplicity of agencies responsible for various aspects of forestry programmes and therefore the multiplicity of sources from which information has to be sought. The proposed FIS must, therefore, aim at providing a "single window facility" to NGOs. It must be noted, however, that all the information may not be available from this single window itself. For instance, it may not be possible, at least at the outset, to have all technical information needs met from this single source; instead, the single window may refer the NGOs to the appropriate information source. Again, in the case of published material and references, the FIS may not have all the necessary material with it but may provide a bibliography with a list of sources from which the detailed reprographs may be obtained. These qualifying remarks notwithstanding, the FIS should be designed and operated with the specific objective of approaching full-fledged single window capability.

10.5 The above contours of the envisaged FIS imply certain operational requirements. Adequate institutionalised linkages with various governmental agencies both at national and state levels, as well as the research institutions and extension laboratories, are essential. The needs survey has shown that grassroots NGOs require detailed and specific information regarding governmental programmes, modes of funding, and technical specifications. One may envisage various official agencies supplying a set of detailed information to the envisaged nodal FIS for onward dissemination to NGOs in a suitable form.

It would be appreciated that this scenario appears paradoxical; if the concerned agencies could supply this information to the nodal FIS, could they not also do the same to all interested NGOs. This problem may be seen in two ways. First, it appears from the NGOs' survey that, for a variety of reasons, official agencies are unable to provide adequate information services to the large number of NGOs which approach them, whereas such widespread servicing would henceforth not be required of them. Secondly, the nodal system need not await the supply of information from concerned agencies but, if suitably structured, could make the effort to procure the same. The nodal FIS would, through similar mechanisms, liaise closely with academic and research institutions, with international information systems such as the NGLS/ International Tree Project Clearing House. These mechanisms assume both an organisational ability (in personnel and resources) to send representatives to various parts of the country to collect the required information as well as the full backing and cooperation of the government at the highest levels in order to ensure building up and sustaining of single window capability.

10.6 The NGOs survey shows that these grassroots organisations, closely linked with the communities they work with, are acutely concerned about the social and economic viability of various ongoing and envisaged afforestation programmes. In expressing their needs for critical techno- and socio-economic analyses of various programmes, especially as experienced in practice by other NGOs, these organisations assert that mere information on programmes is insufficient. The envisaged information system would, therefore, have to actively liaise with NGOs in the field and compile critical information regarding their practical experience with various programmes, their benefits and draw-backs.

10.7 Having dealt so far with the "backward linkages" of the proposed FIS, the major aspects of the "forward linkages", i.e. the information services extended to grassroots NGOs, may now be considered. We have seen that NGOs needs for information are both general and specific requiring the supply of regular as well as query-based information. Regular flow of information could be provided through periodical publications, e.g. a newsletter which would provide, among other things, detailed information on government programmes, funding, experience of other NGOs and occasional digests of reference material, and technical information on specific subjects. Query-based information would be made available on request. Provision of these services implies certain operational capabilities of the system of information storage, retrieval and dissemination.

10.8 The FIS should be run as a specialised rather than peripheral activity. During informal meetings with several professional NGOs, it was emphasised that information dissemination is generally not seen as an independent mainline function by any of the governmental or non-governmental organisations working in forestry in India. While many of these organisations have substantial information resources, these are seen as being not for dissemination but for use in their own research and operation programmes. As a consequence, information servicing, especially on the basis of specific queries, is usually done as a peripheral activity, and only to the extent possible, since such servicing requires the organisation to go "out of its way", stretching its financial and personnel resources. Thus, while one may envisage the FIS being set up in one of the existing institutions with a large information resource base in forestry, with the advantage of building on available infrastructure, the functional requirements of the FIS would dictate that it be located in an agency specialising in information dissemination

and/or prepared to categorise it as one of its main functions.

10.9 The information system itself, given the above, should be organised with the specialised and specific objective of providing effective single window information servicing to the grassroots NGOs. It has been seen that information resources in almost all institutions, both governmental and non-governmental, are at present randomised in the sense that the resource base is governed by the particular area of activity and research undertaken by the organisation, is classified according to these priorities or, at best, using normative library classification systems. As the survey of various official agencies has shown, few institutions even offer bibliography services. Such an organisation of information leads to virtually personalised methods of storage and retrieval and renders the information resources non-systemic.

10.10 The need to provide query-based information only underlines the above. The envisaged FIS should, therefore, evolve a system of classification based on the categorised needs of grassroots NGOs, and the content of ongoing/envisaged forestry programmes. Retrieval would then be purposive and specific and enable query-based retrieval and dissemination.

10.11 Given the above qualifications, it appears inevitable that the envisaged FIS should be a computerised system, information storage which could be expanded in pace with the function, growth and utilization of the FIS. It may be reiterated that whereas the necessary software could be based on similar available software from India or abroad, the functional software would have to be evolved with the specific requirements of grassroots NGOs in the Indian context in mind.

10.12 We may now conclude on some major organisational features of the proposed FIS. It has already been suggested that given the functions of the envisaged FIS and the needs of grassroots NGOs, the FIS is preferably located in a non-governmental agency. Some of the chief organisational attributes of the FIS in such an agency have been discussed in Sub-section 9.2 of Section III. On the basis of the NGO needs survey, it was proposed that, other functional qualities being equal, an NGO-run FIS would better meet the needs of grassroots voluntary organisations.

10.13 It has also been proposed that the envisaged FIS be a national nodal system. In terms of dissemination, a national rather than regional system has several advantages accruing from single agency operation which would more than offset any disadvantages of distance from field level NGOs. However, many of the NGOs surveyed desired regional or local level information centres not only for advantages of proximity and consequently greater rapport, but also for the crucial aspect of information dissemination in regional/local languages. One may, therefore, envisage, as suggested earlier, a network of regional information centres linked to the national nodal FIS. Supply of information in regional languages by the nodal agency would pose several constraints of finance and personnel resources: on the other hand, setting up regional information centres would pose equal, if not greater, resources problems as well as the difficulties associated with the increased coordination required.

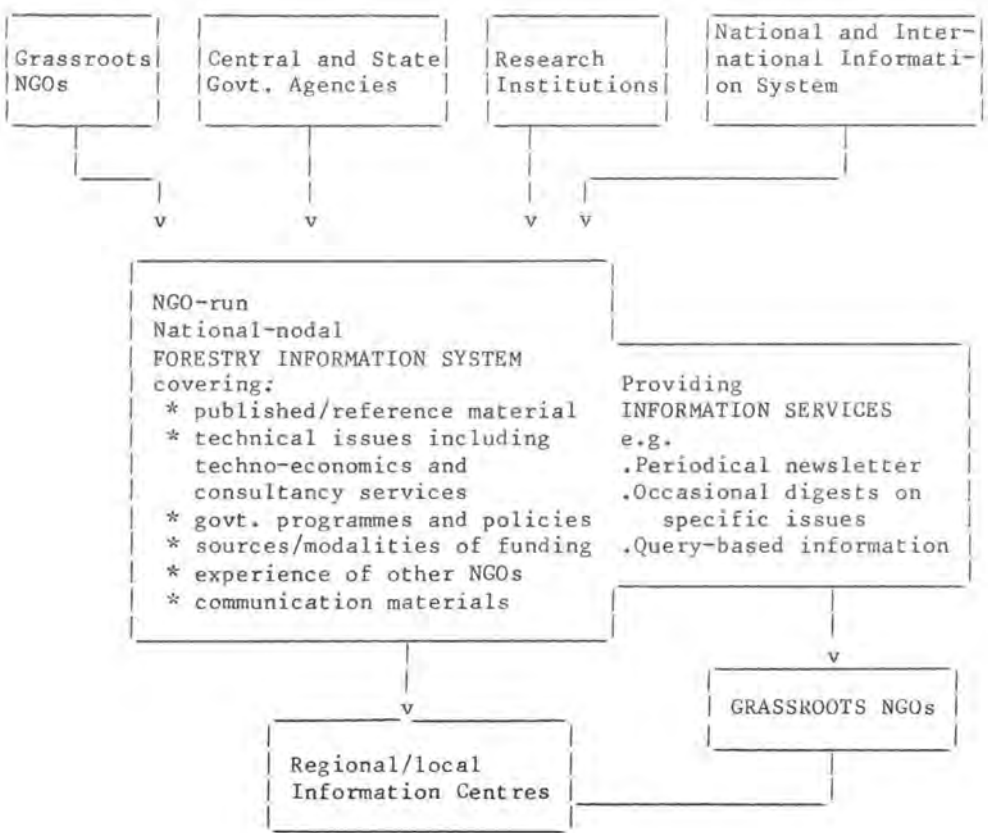
10.14 In setting up of the envisaged FIS, these various factors would have to be carefully weighed with due consideration to the trade-offs available between different aspects. It is recommended that, at the outset, a national nodal FIS be set up disseminating information in English. The further

regional level elaboration of the information system, a desired objective given the complexity of the Indian situation, may be initiated at a future stage, guided by NGOs' needs and their utilisation of the nodal FIS.

10.15 A schematic representation of the envisaged FIS and its linkages with various governmental and non-governmental agencies on the one hand, and with grassroots NGOs on the other, is given below.

10.16 We have already observed that the proposed FIS, being a need-based system, should be built up gradually taking into account the feedback from grassroots organisations to the evolving FIS. It is, therefore, recommended that the FIS be set up with a gestation period of one year, which period would include some trial runs of the system. It is further recommended that a subsequent 18 to 24 months be allowed for the FIS to evolve into its full form on the basis of regular monitoring of its utilization and the extent to which it meets NGO needs. During this period, the form and content of its periodical and occasional publications would undergo continuous modification. It is also suggested the FIS be considered, even after this period, a dynamically evolving rather than a static system.

Schematic Representation of Proposed Forestry Information System



EDUCATION PROGRAMMES FOR FORESTRY

Kartikeya Sarabhai

Introduction

The development of wastelands through afforestation has become imperative given the degradation of ecology and the increasing difficulties met by the rural poor in facing their fuelwood and fodder requirements.

The task involved is so complex as to require a concerted and coordinated effort on the part of the Central and State Governments, non-governmental organisations (NGOs) and other groups concerned. The generation and dissemination of information among these agencies is crucial to the success of this task.

This paper discusses the kind of information that needs to be generated and disseminated, the groups for which it is meant, the media through which information may be transmitted, the channels of information flow and the organisational infrastructure needed to sustain the resulting network.

Target Groups and Their Information Needs

Looking at the Indian experience so far, the participation of the following groups has been identified as crucial to the success of any programme to develop wastelands through afforestation: governmental and quasi-governmental agencies, non-governmental organisations including voluntary agencies, elected representatives and other policy makers, funding institutions, research institutions including universities, rural poor directly dependent on land and forests for their livelihood, local administration including Panchayats, and manufacturers and end users of forest products and produces. Special mention must be made of using school and college networks to spread awareness of these activities among its students.

The enormity of the task of wastelands development in afforestation entails that these groups, besides fulfilling the specific objectives that they were formed for, have also the important task of interacting among themselves to make this exercise cohesive in order that the programme attains and sustains the level of a mass movement.

Elected representatives, policy makers and planners have to work towards creating a favourable climate by enacting suitable legislation, and by spelling out policies and programmes for implementation. The NGOs may catalyse the building of the mass-movement, implement programmes and take field level problems to policy makers and planners for making the desired changes. Universities and research institutions may develop raw technologies to provide information to NGO planners and support extension activities. Funding institutions can make available financial support for imaginative programmes, develop project proposals, and declare financial incentives for the participating rural poor.

Local administrators, through their strategic location in the flows of information and resources, can themselves take up the role of extension agents

and tackle procedural bottlenecks that may arise. The rural poor, who will feel the immediate impact of these measures, could organise themselves into pressure groups to strengthen field-level implementation and to provide a base by which their needs can be translated into policies and actions. Forest and agro-based entrepreneurs can create a conducive business environment that recognises the need for ecological upgradation which, in the long term, will sustain their raw material base. Students must be recognised as an important basis for the propagation of awareness and ideas concerning environmental issues among urban end-users of forest products.

Communication and information flow among these groups operates at various levels ranging from awareness and consciousness building to the transmission of specific information about wastelands development. Accordingly, differentiation has to be made with regard to the information content to be transmitted, and the medium to be used for each of these groups.

The following table is indicative of the kind of information that may be required by the different groups.

TABLE I

Information	For What	For Whom
Man-forest dependence	Awareness raising	All groups
Environmental legislation	Awareness and implementation	NGOs, funding agencies, government officials
Successful models of afforestation	Replication	Policy makers, NGOs, funding agencies
Availability of finance	Motivation and implementation	NGOs, rural poor
New Technologies	Adoption	Policy makers, NGOs, funding agencies,
Procedural norms for acquisition of resources (land,)	Implementation	NGOs, funding agencies
Land identification and survey	Implementation	NGOs, rural poor
Cooperative formation and institution building	Implementation and replication	NGOs, rural poor

Use of Media for Development Communication

Depending on the function that each item of information is expected to

perform, an optimal selection of media may be used to disseminate that information, taking into account the target group, the reach-possibilities of each medium within that group, and the systems support required to facilitate this flow.

The Indian experience with the use of media, particularly in the area of development communication, has often been inspired and innovative. The Satellite Instructional Television Experiment (SITE), for example, successfully demonstrated the applicability of sophisticated electronic media to the transmission of knowledge to rural masses. In addition, there have been numerous small-scale efforts by groups across the country to spread messages through traditional and non-traditional media. Unfortunately, such examples are few and far between. Many experiments do not progress beyond the pilot project phase towards systematic implementation. There is also a severe lack of horizontal communication among different groups on various methods and their efficacy.

Many of these shortcomings may be directly attributable to a lack of political will to translate projects with non-quantifiable objectives to priorities of national concern. Also, resource and personnel constraints have prevented private or small group efforts to effectively convert laboratory or exploratory scale activities to full-fledged projects. Even so, while these may have resulted in a lack of depth of approach to the utilisation of media, they have not prevented the creation of an extensive participant constituency in cheaper and more traditional media such as radio and television. Likewise, extension schemes of both government sponsored and other programmes have relied on print and less expensive audio-visual aids (slides, posters, etc.) in mobile exhibitions, camps and other such activities.

Very little use has also been made of personal and group interactive methods of sensitisation, awareness-raising and consciousness building. These methods have a useful supportive role to play in the promotion of new ideas and the diffusion of innovations.

The potential utility of some media towards the creation of a network for the spread of information and knowledge among the groups discussed in this paper is presented in Table II.

The Adoption of Wastelands Development Programme

A person who receives messages of the wasteland development programme undergoes stages of reactions that could lead him to adopt the programme. An appreciation of the different stages will throw up pointers to the kind of organisational support necessary to catalyse and facilitate such movement.

Stage 1: Awareness

The awareness process acts differently with different target groups. In the case of the rural poor, who are also the direct beneficiaries of the programme, the awareness ultimately leads to direct initiative to take up tree planting. In the case of school and college students, elected representatives and other groups, the awareness helps to build up a latent endorsement of the programme. The process is facilitated by the use of different media to propagate messages, which induce different reactions in the receivers' minds.

Stage 2: Motivation

During this stage, the rural poor/NGOs, who have already become aware of the programme, will now decide to seek information, on the basis of which he/they will be able to make a preliminary evaluation on whether to go ahead or not.

Stage 3: Information Collation

The target group now collates all the information it can with a view to making a more thorough cost-benefit analysis. During this stage, the group passes from a stage of hesitation to one of readiness, albeit with a few reservations.

For example, the rural group would collate information about availability of public land and the process of cooperative formation. The group may then decide to initiate steps to this end. Some members who possess private land may even wish to bypass the institution building process and take direct benefit of the facilities offered.

Stage 4: Reinforcement

During this phase, the rural group seeks to be convinced of the effectiveness of the technology or of the cooperative model by actually seeing it in action, or by receiving similar convincing proof. They may contact extension workers or NGOs, or visit demonstration sites, for endorsement of the model. At the level of bureaucracy, this could take the form of assimilating information on successful experiences of NGOs/rural groups in the implementation of the programme. Urban groups could be convinced by viewing audio-visual material on cooperative formation and tree growing.

Stage 5: Adoption

The group decides to adopt the new technology, convinced of the accrual of gains, economic or otherwise, through this. This stage will culminate in mass-level tree planting programmes in rural areas and the creation of corresponding infrastructure to facilitate this movement. At the national level, this could manifest in the formation of public pressure groups advocating environmental considerations in the planning process for the country's development.

It will be clear that, at each stage, different kinds of organisational capabilities are called for that require specialised skills and techniques so that a person may be gently nudged into the next stage. Recognition of these needs and the organisations capable of fulfilling them can go a long way towards creating a network that can sustain the introduction of new ideas into social frameworks.

Tables II and III outline the media and organisational support that is required to facilitate the process of adoption of the programme. The process involved is admittedly more complex; however, the effort here is only to present the more obvious elements.

TABLE II

Elements in the Diffusion of Information	Media
Awareness-raising	Newspapers, TV, Radio, films
Institution-building	Personalised media (group techniques: sensitivity and motivational training), folk media, TV, films
Motivation	Personalised media, pamphlets, posters
Delivery of technical information	Training & visit programmes pamphlets, posters, video, slides
Demonstration and replication	TV, video, training & visit
Implementation	Personalised media, folk media, video, slides
Feedback	News reports, TV, Radio

TABLE III

Stage	Organisational support required
Awareness	Propagation of messages through mass media; use of personalised media
Motivation	Providing support through field personnel and personalised media
Information Collation	Establishment of information centres; extension support through training and visits
Reinforcement	Field support through training and visits, demonstration models
Adoption	Financial and technical inputs; training; feedback evaluation and monitoring

Network

It will be apparent from the previous section that no single organisation can hope to perform all the support functions necessary to create and sustain the afforestation of wastelands on its own. It must also be noted that the stages above have to be completed within a specific time frame, depending on the nature of the financial and temporal commitment involved.

It becomes, therefore, necessary to identify organisations possessing recognised skills involved in the different stages of the model, so that responsibilities may be distributed, funds may be arranged and the linkages made clear for the establishment of a network of organisations collectively geared to the task of wastelands development.

A group that seeks to involve itself in activities concerning the first stage of adoption will have, of necessity, to possess skills in the imaginative use of mass media to propagate development oriented messages. These will have to be supported by a reasonably sophisticated infrastructure that allows for the creative expression of ideas. More importantly, it is our conviction that the most meaningful efforts in communicating development messages arise from organisational ambiances that permit the free interplay of inputs from media experts, field personnel and research experts. This kind of arrangement ensures a variegated sense of perspective and protects against the temptation to apply specialised skills indiscriminately to all kinds of problems, in isolation of the environmental context in which they were generated. This view is in contrast to one which seeks the creation of a model or pattern for duplication in various circumstances. At the Centre for Environment Education members of different functional groups (children's urban, rural, writing and design) are drawn together regularly on time bound projects to develop programmes and disseminate knowledge in the field of environmental education at the national level.

Complementary to this, a field based network of information centres will serve to disseminate the messages as well as convey feedback on their effectiveness, and serve as foci around which the field programmes will be organised. The experiences thus generated will also be fed back to the coordinating agency for analysis and incorporation into communication programmes. These centres can be located with NGOs across the breadth of the country. It is recognised that agencies have different interests and constituents to cater to. To ensure that a reasonably equitable spread of the benefits of this programme is achieved, a judicious mix of agencies can be made to create the network.

The initial effort of creating, maintaining and coordinating such a network of agencies will have to be entrusted to an organisation that specialises in creating communication channels between agencies concerned with afforestation work, while itself maintaining a field presence. In Gujarat, the Vikram Sarabhai Centre for Development Interaction (VIKSAT) has been trying to develop such a network.

Work on the creation of the network may be divided into two phases. The first phase will involve the identification of nodal agencies who can be funded to initiate work. These nodal agencies can identify about 50 agencies which can be networked. This phase will also involve the selection and training of staff and the establishment of infrastructural facilities. The phase will take about two years. The second phase may be divided into two periods: the first period, of three years, will include the development of communication materials, their field trials and refinement, the dissemination of these and feedback; a mid-course review at this stage will serve to highlight the strengths and weaknesses of the programme, which can accordingly be incorporated into the planning of the final phase. The final two year period will consolidate the experiences gained so that a lasting basis is

established for the afforestation of wastelands. By the end of the seven years, it is anticipated that the centres will themselves become viable and self-supporting units.

The United Nations agencies and the National Wastelands Development Board can provide the impetus necessary to begin the network by providing financial assistance and backup support.

COMMUNICATION MEDIA AIDS FOR FORESTRY

Vipul Sangoi

Social Communication

Communication builds the social environment in which we set ourselves. The process of communication shapes each individual's personality, and through such processes, the individual affects the world.

"Who says what in which channel to whom with what effect."
Laswell, 1948

Essentially humans interact with each other through the sensory organs. Eyes to see, ears to listen, skin to touch. Communication through verbal and visual methods has been the basis for the growth and development of the human civilization. The gathered and evolved information was passed in the oral tradition or in recorded form. Mass communication came in with the industrial age with the use of machines which were incorporated in the communication chain. They were able to speak, listen, see, and record for the individual.

The world around us is changing very fast, every day. Disparities between cultures, lifestyles, values and understanding of people are greater than ever before in the history of humankind. There are "primitive" tribal cultures, self-sufficient in themselves, living with years and seasons to mark the passage of time, co-existing with highly specialised, "modern advanced" industrial cultures where the unit of time is seconds and milliseconds. Most have not been able to adapt fully to the changing environment. Many age-old concepts and values have been abandoned, side-stepped and forgotten in the quest for development, unwisely at times. And many are clung on to in spite of their irrelevance.

Socially relevant communication deals with the "essentials" of living. The social communication, with its various levels of meaning, defines the social world according to the perceptions of each individual.

1) It provides information on all that is happening around us which helps define a society's place with respect to the world at large.
2) It keeps us in touch with developments taking place in various fields, ideological and material, to enable us to use the information in our daily lives and surroundings.
3) It defines our position with respect to other people at various levels, starting from the home environment to the rest of the world.
4) In all, it helps an individual and a society to adapt successfully in an environment.

It is, therefore, necessary that a social communicator should understand social systems, attitudes, and cultures, along with the information that has to be communicated, so as to develop relevant communication strategies.

In the Indian context there are no simple solutions within the diversity of the land and its socio-cultural systems. Communication in this circumstance is a pervasive challenge.

Studies indicate that people generally remember:

10% of what they read;
20% of what they hear;
30% of what they see;

50% of what they hear and see;
70% of what they say;
90% of what they say as they do a thing.

In the field of forestry where direct action is an integral part of the programme, effective communication would be possible through use of the retention capacities of reading, hearing, seeing, and their combinations to get to a stage where the audience itself says and does things, becomes transmitter instead of recipient of messages and information.

For the purpose of this report, communication has been divided into two broad categories:

Verbal Communication: Normal speech, either between two individuals or between a group of people, is probably the best form of communication, but also has the limitations of language, time and patience required to reach out to an audience at the requisite moment and to sustain the communication. Biases of the audience against the communicator also become important.

Communication Using Media Aids: These aids could be used either to assist and supplement normal communication or to replace it. These would include the simplest ones like song and mime (where the language or actions are used to create additional interest and meaning), to complex aids, like film and video, which require sophisticated technology and a team of specialists to produce.

This report deals with the latter form of communication.

Communication Forestry NGOs

In India the non-governmental organisations (NGOs) play the significant role of a supplementary force to the governmental development agencies. Not only do they do direct developmental work, but they also help in raising awareness, making people conscious of various aspects of issues related to their lives, their rights, and their duties.

They have been working in various fields like health, human rights, social awareness, and economic upliftment. Many of these issues are interrelated. There is a growing consciousness within the government as well as among NGOs, of the relationship of the natural environment with these issues.

Use of appropriate communication media, by both the governmental as well as the non-governmental sectors, has been limited. Communication aids are best used by the NGOs as they work among the people on a proximal basis. Use of mass media in a complex socio-cultural milieu that exists in our country has limited effectiveness. It is a form of media better suited to an urban rather than a rural audience.

The Government attempts at communication through aids is visible in programmes like family planning where an inverted red triangle is probably the most easily recognised symbol in the country.

NGOs, too, have used communication media, traditional as well as modern, for various aspects of the issues they have been working on. Forestry, being a relatively new issue with most of the organisations, not much is known about the use of these media. In fact, the constant refrain heard from most of the people during the course of this report was that there were no communication aids being used by the NGOs in this field. Thankfully, the situation is not so grim.

The reason that this feeling and opinion exists is because most communication aids being used in the field are not properly structured and designed for the task. They are also poorly publicised and shared by the NGOs.

Use of slogans and songs is very popular. Informal slide presentation, hand-made posters, organising "melas" (gatherings to celebrate events and occasions), which are mixed media events, are also being used and tried by the NGOs. In spite of these efforts, there is a definite need for a stronger media culture in the non-governmental as well as the governmental sector.

This report initially began as a study into what exists in terms of communication media being used in the field in India. The negative feedback from many quarters and a lack of response from most organisations made one feel the need for a much stronger media culture. Therefore the report, besides presenting some examples, also tries to put together information which would be of help to organisations in conscious and systematic design and use of communication aids to strengthen their work.

Communication Components

Any communication aid is developed around the following components, all of which are interrelated.

The Audience - Target Group: Urban, rural, class, caste, religious beliefs, age, literacy level, sex, and awareness level. (Some of these are peculiar to India, adding to the complexity in designing aids.)

The Content - Subject Matter: General information, specific technical information, specific information regarding law or rights.

The Objective: Create interest, raise awareness, provide information, induce action.

Media: Traditional form (e.g., puppetry, songs, drama) modern media (e.g. video, taped audio programme) or interface (e.g., a video recorded play). (These would be discussed in detail at the end of the paper.)

Maker - Designer: Depth of understanding, availability of information, availability of skill. The best mix is an "aware" specialist working closely with a grass-root worker.

User - Volunteer, Field Workers: Understanding of the aid, skill of use, and follow-up action.

Resource Constraints: Funds, access to specialists, time, dissemination methods, and available human power.

An effective aid will have to have the right mix of all these components.

Chipko

Uttar Pradesh Gharwal Hills

The Chipko movements are at present led by two people: Sunderlalji Bahuguna - Siliyara, Tehri; and Chandi Prasadji Bhatt - Gopeshwar, Chamoli. Both factions have different ideologies in terms of the nature of movement and course of action, but a very similar method of communication.

The movements are not only environmental but deal with the economic as well as socio-cultural problems of the region. As there is very little by the way of agriculture or other forms of earning a livelihood in the region, most men leave their homes to earn a living, mainly to the plains. Therefore, it is the women who share the major responsibility of providing for the daily needs, especially of fuel and fodder, of their families. Women in some places have to walk as much as 20 kms. a day to bring a head load of fuel or fodder. The drying up of natural water sources has added to their problems. Most of their problems stem from the lopsided environmental policies followed in the region which pay more attention towards commercial exploitation of the forests and other natural resources.

There has been excessive cutting of local broad-leaved forests which had provided the people with all their essential necessities. Most of the plantation in the region has been of commercially used species such as chirpine and deodar which provide for industrial and urban needs. Even these are exploited for resin and timber in an unscientific manner. Considering the situation, it is not surprising that the women are playing a major role in the movement.

The name of the movement "Chipko" means hugging (of trees, with respect to this movement). All the reported incidences of "Chipko" marches to save the local forest against its cutting have been led by women, singing songs and shouting slogans. These two forms of communication are probably the simplest to produce and use. They have a strong unifying strength and provide a common base among the people in any movement. The songs and slogans used by the movement are simple and direct. They have been written by the local poets and are composed and sung in the local tunes.

As the movement is not only environmental, but also deals with the economic as well as the socio-cultural aspects of the region, these communication media have been used to make the people more aware as well as active in the conservation of their fragile environment.

In many villages women have formed groups. These groups work towards a better life for themselves and their environment. They meet regularly to formulate plans for action. Now their decisions carry weight and are supported in the region. The movement has provided them a moral support. The use of songs and slogans plays a big role in building and keeping up of the morale, a thread of unity common to all the groups. These groups meet among themselves and with other groups to share experiences and ideas and formulate

action points. These inter-group meetings are very colourful affairs. The event has the flavour of a 'mela'. Groups from various villages gather at the site to the accompaniment of drums and songs. The chosen site is often near a stream and is decorated with colourful streamers.

The meetings have a simple format. The participants share their opinions, experiences, ideas and questions between each other and the Chipko activists. The meetings are punctuated with songs related to various issues facing them. These songs, in local folk style, have popular appeal and are a simple, yet powerful, means of communication.

Most regions in the country have a traditional style of song and music. Though it requires a certain degree of creative skill to write songs, it is not difficult to find local talent. Setting songs to popular folk tunes is a very effective way to propagate ideas and issues. Some of these songs have also been published and are distributed by the activists.

This form of communication media has been successfully exploited by the Indian commercial films, where songs ranging from the profound to the nonsensical have a popular appeal in spite of being in a language alien to a lot of people.

Mahiti

A group of people in 1979 formulated a Block Level Plan (BLP) for Dhandhuka Taluka, for the Gujarat Government. They found 20% of the Taluka to be saline wastelands. The situation in 40 coastal villages of Bhal, in the Taluka, were even worse with 49% saline wastelands. The people in the region were very poor. There was an acute shortage of fresh water. Many people migrated to other areas to make a living. Even good agricultural land was open to wind erosion and flooding by the creek waters. There were no natural barriers or protective cover to stop more and more arable lands from turning into saline wastelands.

During the discussions with the local people, they found that there was an awareness among them that the wastelands could be productive as they could support local tree species. Their suggestion to the government in the BLP to begin a mass afforestation programme was not agreed to. The concerned officials were not sure of the possible productivity of these lands. They talked to the local people, who had practical experience in growing things under the harsh local conditions, and found them receptive.

"Mahiti", which means information, was formed by this small group with the aim of encouraging people to use wastelands for forestry, thereby benefitting them economically and environmentally, making them self-reliant.

The team began functioning by trying to collect information on the subject of saline wastelands afforestation. Since the available information was inadequate, they decided to fill in the gaps through experimentation. During the course of information collection, they found that a lot of research data was in a complex language. At times there was a reluctance on the part of the researching bodies to part with information. This created a communication gap, and was a sad comment on the selfishness on the part of individuals and agencies to share what could be of good to a larger group of people.

In their experience, sharing information only through verbal means was an unsystematic and inadequate manner of information dissemination. Many details were either missed or could not be covered. It was also not realistic to expect people to remember all the details in the correct sequential order. These problems led them to think of a way of putting the information across in a more systematic manner.

A. Evolution of the aid: The most logical solution was to put the information in a form which covered all aspects of an issue and was instantly referable by the user, when needed. This meant use of the written word, especially in a region where the majority are illiterate. After much thought, the group felt that it just was not possible for technical information to be presented in any other form, keeping in view the constraints of the cost and its nature of distribution. However, they designed the communication aid, printed pamphlets, keeping in mind the audience. The important design considerations were:

1) Use of simple Gujarati language - handwritten in a large size, leaving a lot of space;
2) Division of the information into points;
3) Use of visuals and photographs wherever appropriate and possible;
4) Visually appealing but low in cost.

The first layouts were tested for language and visual understanding with the audience and modified accordingly for production. The first users of the pamphlets are the field workers themselves, as they use the pamphlets during explanation and discussions.

As an example, a pamphlet on Prosopis Juliflora has been chosen.

B. Nature of Aid/Media: A printed pamphlet. 175mm x 230mm, 18 pages

1) Subject - "Ganda Baval", Prosopis Juliflora

2) Target Audience - The people in the coastal areas of Gujarat with access to saline wastelands.

3) Contents
- benefits
- income estimate
- plantation process from choosing and acquiring of land to plantation methods
- post plantation information
- method of making urea fertilizer
- special note

4) Objectives
- encourage action
- provide information regarding acquiring land
- methods of planting
- post plantation care
- fertilizer making

5) Method and Cost of Production
- handwritten and hand illustrated

- one colour printing - black on white
- Xerox offset printing on map litho paper
- staple binding
- cost Rs. 1.30/pamphlet

6) The Text
- The language is simple and conversational.
- The captions are bolder, bigger and underlined to distinguish them from the rest of the text.
- The secondary captions are smaller, bolder and underlined.

The line length (width) of the text is ideal. Normally a line should not contain more than seven to ten words. More than ten words per line can lead to eye fatigue thereby losing the reader's attention or reducing the capacity to concentrate on the text.

Text which has a strong horizontal character is easy to read. The space between the lines should be visually more than the space between the words. Square letter forms, with equal line and word space, tend to give the page a "floating" look. (This problem is more apparent in Gujarati script as it does not have the upper stroke like devnagri or a fixed "X" height as in Roman lettering).

The text has been written in points which makes it very easy to read, comprehend and remember.

7) The Visual Aspect
- The booklet has very few visuals.
- The illustrations are preceded by a photograph on a similar topic which helps explain the illustrations better.

The captions in the illustrations have gotten slightly mixed with the texture in the illustration. Such overlap should be avoided if only one colour is being used for printing the aid. The captions are also spread over the illustration. It is better, if possible, to assign them a definite area in the illustration. The framing of all the illustration could be similar.

8) The Overall Design
- Overall design of the booklet is simple.

Appropriately and consistently used design elements can definitely go on to make a booklet visually more appealing, but superfluous elements tend do distract the viewer from the main content.

For example, the cover should have a very graphic caption supported by a clear communicative illustration. It eliminates the need for those corner flowers which have nothing to do with either the species of tree or the inside information. Possible decorative option could be the use of pods of Prosopis Juliflora.

The excessive use of rules, especially the boxes around the pages, is also not required as it blocks information particularly when it continues over a new page.

The hexagonal shape over the page number does not go with any other design element on the page. If needed to be used, then it could have been incorporated as part of the page outline, thereby giving the outline an additional function.

This example has been picked at random from the 13 pamphlets designed by Mahiti so far. It is a good example of a well thought-out communication aid. The Mahiti team has consciously tried to see and observe what elements would enable their communication aid to be successful and useful with respect to the target audience. The rest of the Mahiti pamphlets are not necessarily similar to this one. It is easy to see the influence of different artists who have been involved with the production of the different booklets.

Mahiti has put together all their pamphlets which contain the information that they have been able to generate in a field guide. The guide also contains their views, experiences and comments on the use, design and production of these communication aids.

Having used the pamphlets, the group realises that a single communication aid is not enough to cover all its communication needs. Now they are experimenting with aids like charts and flash cards and are also trying to put together a team from the local people to perform plays.

Kerala Shastra Sahitya Parishad (KSSP)

KSSP's concept of environment includes the physical, biological, socio-economic and cultural environment. Their slogan is "science for social revolution". They consider revolution to involve a reversal of current social trends in India where the majority are increasingly impoverished while the minority enriches itself on the country's resources.

The KSSP has more than 600 units spread all over Kerala. They have brought awareness on scientific matters and some environmental issues to rural people and the less sophisticated urban populations.

One of the issues which they spearheaded was that of Silent Valley, which is one of the last few surviving primeval rain forests in the region.

The methods of communication used by KSSP include "Jatras" and "Morchas". These consist of street plays on various issues, along with processions and protest marches. They have slide shows, posters, leaflets, exhibitions, street corner discussions, magazines, reports and a magazine for children. Once a year, every unit conducts a "gram shastra morch" (village group protest) to highlight a cause.

KSSP's use of street theater is an example of a media of communication which is inexpensive, and yet, effective. The normal Indian is always interested in what the other person is doing. Any public incident is sufficient to gather a crowd immediately. The rich and powerful might ignore a street side happening if they feel it's below their level of "sophistication"; the poor and suppressed, if they feel it's patronised by the rich, powerful or intellectually superior.

The team consists of activists dressed in traditional manner, men in lungis and women in saris. They use drums and slogans to attract crowds. To

begin with, they introduce themselves, followed by the topic of the play. The story line of the plays is simple. Words, slogan and songs are used with strong, exaggerated, or abstracted movements and actions. Some plays are dramatisations of songs only. Props are rarely used. The performances end with fund collection from the audience. Since the plays are simple, their production does not call for a high degree of skill.

This form of communication is excellent to reach out to and involve an audience of about 100-200 people. The plays lead on the direct interaction between the audience and activists.

KSSP team also travels to different states and with the local groups they put up performances in this media form. Since the language of the content is simple, it is easily translated into the local languages, promoting this form of communication to other areas. It also proves the universality of this media.

KSSP also uses the media of stage theater. In this form, the audience is distinguished from the performer by the level of the stage. It is effective for a large captive audience, 500-1000 people.

KSSP uses printed media and reports for the literate groups which include specialists and decision makers.

It is this mixed media approach that KSSP used to fight the Silent Valley Project successfully at various levels.

VIKSAT

VIKSAT started a wastelands development programme in 1984, the overall goal of which is to bring about people's participation in the afforestation of wastelands. The main strategy of the project was to work through various voluntary agencies that exist in Gujarat.

The main components of the project include:
-raising awareness among the decision makers, NGOs
-providing technical assistance
-training.

All these components have a strong communication content.

The project team has closely involved itself in the formation of the grower's cooperatives of small, marginal farmers and landless labourers in some areas. These cooperatives carry out afforestation activities on degraded forest land that is leased to them by the forest department.

Vegetation grown on this land will be the property of the co-operatives. The team also takes problems to the governmental level for policy and administrative intervention.

VIKSAT began its communication programme for wasteland development by bringing out a newsletter in Gujarati, the local language of the region.

The details are as follows:

Language: Gujarati

Subject Matter: Information; experiences; idea sharing on policy issues; motivation and communication

Objectives: To bring about popular participation at various levels in wasteland development and related activities

Target Audience: VIKSAT went through an interesting exercise in preparing the list of the target audience for the state. They listed all agencies and individuals who could ideally be included in the newsletter mailing list. 30,000 people, in Gujarat state alone, were listed as the possible recipients of the newsletter. The final mailing list was shortened to 3,000 names.

The objectives and the contents of the newsletter have also been thought out in detail. They are listed below. This list would be of use to other NGOs interested in starting a venture of this type.

Objectives:

1) Awareness

2) Dissemination of information on:
   - technology
   - schemes
   - various events, e.g. seminars, workshops, lectures, training programmes
   - literature, information, reviews, abstracts
   - institutions, voluntary agencies, government corporations, government departments
   - market and market trends
   - resource availability (seeds, seedlings, finance, land, resource persons)
   - institutions (departments, places, nurseries)
   - information about VIKSAT WLD programme, training programmes happening in other states
   - governmental policies at the central and state level

3) Experience-sharing
   - sharing of VIKSAT's group experiences
   - sharing of experiences and information by the readers

4) Highlighting issues and problems of WLD and related activities

5) Environmental awareness

6) Newsletter as a forum for debate on the various aspects of WLD

7) Follow-up service for reader's problems with government departments and other organisations

8) Creating a forum within a village for stimulating interaction on WLD

Contents:

1) On awareness
   Stories, poems, successful experiences, quotations, speeches, articles, abstracts, skits, caricatures, general information about the role of trees

2) On information
   - trees in every issue
   - newspaper clippings
   - see objective No. 2.

3) See objective No. 3

4) See objective No. 4

5) Land-water-man relationship, information about the present scene and the future; importance of trees, erosions, floods, famines, rain, temperature, pollution, ecological relationships between man, animals, birds, insects and natural surroundings; genetic variety; misuse of pesticides and insecticides; genetic variety as a defence against diseases;

6) Initiating a debate for readers to carry on; readers themselves initiate debate and carry it on. Announcement about the debate column. Examples of debate topics: Cooperative as a model for WLD, market, technologies, politics, schemes, economic benefits of tree growing.

7) Follow-up service

8) Forum creation: The subjects for the forum - fuelwood, water and protection - are common problems of a community which can be solved by community action and seldom by individual action

9) Case studies of WLD programmes, a comparative analysis made, technology applications, training programmes, problem solving.

VIKSAT has designed and produced a booklet on raising nurseries, Rope Uccher, which is described as follows:

Nature of Aid/Media: A printed booklet; 140mm x 190mm; 44 pages, excluding cover

Subject: Rope Uccher Nursery Raising

Target Audience: Voluntary agencies, cooperatives and individuals who wish to start nurseries and are familiar with Gujarati

Contents:
1) Preface
2) Contents page
3) Why is a nursery required?
4) Selecting and arranging the nursery site
5) Preparing soil and bed laying

6) Seeds
7) Sapling care
8) Sapling protection
9) Nursery register and time table
10) Appendix 1
    - soil and water testing techniques
    - soil and water testing laboratories in Gujarat
11) Appendix 2
    - list of trees suitable for different types of soil

Objectives: Provide detailed technical information on raising nurseries.

Details of production:
1) Photo typeset text
2) Realistic though stylised illustrations
3) One colour offset printing, black on white
4) Two colour printed, laminated cover
5) Centrally stapled
6) Cost: Selling Price Rs. 8/booklet

VIKSAT has extensive experience in the field of printing and publishing. The organisation has a full-fledged design department. This booklet has been made through a group effort. The team consisted of a writer, a designer and artists. The target audience for the booklet is slightly more sophisticated than the average rural man. It is a reference guide to be used by the voluntary agencies and literate people among the cooperative societies. They, in turn, can pass on the contained information to individuals interested in raising nurseries.

The Design: It is a well-designed booklet. It has been designed on the basis of a grid. Grids are used to systemise the placement of the text, the visuals and other elements on a page. This systematic approach helps in quicker and better production of printed material. The consistent look achieved by the use of a grid makes the booklet pleasing to the eye and easy to read.

The Text: The text is photo typeset. The line length of the text is ideal with an average of nine to ten words per line. The text is placed to the left of the page with the right side reserved for visuals. The chapter captions, sub-captions and important topics are easily distinguishable from the text through the difference in point size and type weight. The text is simple and concise. The unit of measurement used for the technical descriptions is metres and centimetres.

Visual Treatment: The booklet is profusely illustrated. Most of the illustrations are done by stippling technique. In this rendering technique, a range of tones are created by varying the density of the dots in the illustration. The advantages an illustration has over a photograph are:

1) one can control the emphasis of various elements in the visual;
2) one can show elements which would not be clearly visible in a photograph;
3) the size and composition of the illustrations can be varied to suit its placement along with the text.

On the other hand, photographs are good for showing "reality", examples, and comparisons.

The illustrations in this booklet are used to:

1) show comparison;
2) show various nursery layouts and types;
3) show individual elements related to nursery and plantation techniques;
4) show a person (man) doing various jobs related to the preparation of the nursery;
5) show action using hands only instead of full figure.

Most of these illustrate the text. The illustration of the comparisons are very abstract and rely too much on captions. The human figure in the illustrations is consistent in his dress and, to a certain extent, looks. Beside giving the booklet a continuity, it could leave the impression that nursery raising is a one-man affair.

Probably a variation of this could be that a woman as well as a man is shown actively participating in nursery raising. The human figure, where drawn, has been shown in full. It is right to do so as truncated figures might distract the viewer and adversely affect the meaning of an illustration. The only truncated element used is the hands. It is a valid way to show action in detail, and since the style is repeated, it therefore sets a pattern.

Since the booklet has been printed by offset method, a few photographs related to the illustrations could have been used to lend greater reality to the illustrations.

VIKSAT is also trying to design a booklet in which the information on nursery-raising will be conveyed in a purely visual form. This booklet is being designed for an illiterate audience. It would only be produced after extensive testing. If documented, the process and the results of the testing would prove to be immensely useful for a communicator. Besides this, VIKSAT has also produced many other booklets and pamphlets. They have planned an extensive communication programme using a number of communication media.

Media Aids

There is a limited use of communication aids among the NGOs. As seen in the example, communication aids do not have to be expensive or slick to be effective. Lack of information on how communication can be improved by the use of communication aids, the variety of media aids possible and their modes of use, coupled with constraints of time, personnel and other resources among the NGOs has probably resulted in this lack of a strong media culture.

Communication aids, if used, can:

1) increase speed of communication;
2) help organisations reach wider audiences effectively;
3) stimulate people to think of their own problems, identify and resolve them;
4) provide information on the options available so that the people can decide on the course of action suitable to them;
5) help build a strong public opinion;
6) give the weaker section a voice and confidence to actively participate in the developmental processes;

7) get across to decision makers more effectively;
8) ensure larger public participation in environmental conservation;
9) help get technical information across more easily;
10) encourage community action;
11) help share experiences between people and between organisations;
12) record and carry views, activities, conditions of an area from one set of people to another;
13) help resolve disputes, create understanding between people and between communities.

These are possible through the use of communication media aids for:

1) creating interest and awareness about:
   - the prevalent environmental situation in an area, in a country, and in the world;
   - the inter-relationship between environmental degradation and environmental disasters in a region and all over the world;
   - dependency of the individuals and the world on natural systems, resources and available options for action;
   - the judicious utilisation of natural resources;
   - the role of an individual and a society in conserving the natural environment;
   - the manner in which various societies and individuals are facing and tackling the situation;
   - how NGOs can use specialised services of professionals like managers, communicators, social scientists, and technical specialists to be more effective in their efforts.

2) general information on:
   - possible efforts that an individual or a society can make to improve the present environmental situation;
   - types of vegetation which can be grown depending on the type of the soil and availability of water and other resources;
   - types of vegetation which can be grown for a required purpose;
   - ways and means to harness natural resources without adversely effecting the environment;
   - human resources, like land and water;
   - management techniques;
   - ownership of land and other related issues.

3) technical/specific information on:
   - the method of acquiring land for an afforestation programme;
   - legal procedures to be followed for forming a tree growers cooperative;
   - starting a nursery;
   - planting the saplings;
   - maintenance and harnessing of land and water resources;
   - silvicultural practices to be followed after starting a nursery or planting a plantation;
   - methods of providing protection to the plantations.

Use of Traditional Communication Media for Developmental Messages

India has a rich tradition of folk art, dance, drama, puppetry, and

painting. As the term "folk" implies, these forms have evolved very much in the context of the audience, their social conditions, political environment and religious backgrounds as well as their geographical location. Many of these forms are surviving, but in a very small way. The reasons for the present state of affairs are:

1) these forms have been unable to adapt to the changing environment;
2) the issues they portray are not contemporary;
3) the interests and the "tastes" of the audience have changed;
4) this has also resulted in "vulgarisation" of some of these forms;
5) to a certain extent they have been replaced by other recreational and informational media like film, television and newspaper;
6) the exponents of these forms had a definite place in the community which recognised their use and value and therefore supported them; now unable to support themselves through their traditional profession and skill, they have taken to other professions without passing the craft on to the next generation.

These forms are essentially rural-based. Many of these are suitable for adaptation to the present context but need encouragement, support and direction which can be provided by the NGOs.

One of the advantages of traditional media forms is that the local audience is already familiar with them. The same fact can also be disadvantageous as some of the forms and the characters have a definite relationship with the audience and the content. If used insensitively, it can be harmful to the message. The NGOs will have to be sensitive enough to spot a potential in local communication forms and their exponents for the purpose of communicating the required messages.

Most of these forms need not be treated as sacrosanct in either form or content. They could and should be modified within limits keeping in view their durability as well as their suitability to the necessity of the message. Only some components of these forms can be used. Depending on its appropriateness, components from various forms can be mixed. The knowledge and the skill of the exponents can be tapped for different or newer media forms.

The exponents of these forms, the folk performers, are excellent communicators and can become powerful agents of change especially since they are familiar with the audience. In order to be most effective, however, they will have to be not only familiar with the message but also convinced of its importance. The need for sensitivity in a communicator cannot be overemphasised. The final communication form should be tested and modified to suit the audience with respect to the message.

A list of media aids follows. All the aids have certain strengths and drawbacks. Their form during use would depend on the aim of communication and the target audience. The list is in no way complete because there is always a possibility of a new method of communication to better suit a given situation.

Wall Painting/Mural: Painting walls with visuals or slogans: the visuals should be simple; the slogans, catchy; local talent can be used; it is possible to do the murals in a big size, using multiple colours; there will be a sense of involvement in the owners of the walls with the message; a mural should be executed in places frequented by a large number of people; a

well-done mural has less chance of getting defaced; this media is more suitable for rural audiences.

Purpose: To create interest and awareness; to give general information and suggest possible action; to remind and to reinforce messages; to promote discussions between people and between activists and people.

Paper Poster: Presenting simple or complex visuals or text on paper of sufficiently large size; should be kept simple to increase its effectiveness; typography (use of letter forms, types), illustrations, and photographs can be used; it can be reproduced in large quantities through a variety of methods of printing, depending on available resources and budget; stencils, screen printing, letter press, offset, block printing are some of the methods of production by which the posters can be produced; number of colours that can be used will depend on the production process employed; a poster has to be displayed either in a "safe" place or has to be attached to the display surface strongly; it has a limited lifespan if open to natural or human elements; better suited to urban audiences; very popular with the youth; charts can be designed to accommodate a lot of complex information; presentation and production methods are similar to poster; can be used during meetings in schools and colleges.

Purpose: To create interest and awareness; to give general information, technical information, and suggest possible action; to show examples and comparisons; to remind and reinforce messages; to promote discussion; a set of them could be designed to form an exhibition when displayed together.

Metal Poster/Billboard: Very similar in approach to paper posters but hardier; can withstand natural elements better; they too can be mass printed; billboards and hoardings can be of various sizes and shapes; unlike paper posters which need a surface for display, these can be displayed on appropriate structures.

Purpose: To give general and technical information; activists can use it for explanations, and it can be left on display as a reminder.

Canvas Poster: Another variation of the poster form; canvas is a material which can be rolled or folded; therefore these posters can be carried around by the activists and can be used in schools and colleges; a poster, even if hand-painted, would last a long time; for the ease in display and storage, it is best to fix a wooden strip on any one or both sides of the poster.

Purpose: Similar to paper posters; because of their long life and relative indestructibility, these can be carried from one place to another; can be used at melas, meetings, and schools.

Canvas Blackboard: Simple and flexible communication aid; creating a mobile blackboard by painting a piece of canvas black; a simple illustration can be printed on it as a basic reference drawing.

Purpose: Like the chart, it can be used during discussions to provide explanations and information; can be used to draw on during meetings for

explaining and clarifying information; through use of this aid, the audience can also participate actively.

Pamphlet/Booklet: A media very popular with the NGOs; it is ownable and hence referable by the audience; good deal of text, illustrations, and photographs can be included in it; can be produced through many techniques; it could be designed for active audience participation; the presentation of the booklet, its visual and textual content, would depend completely on the nature of the target audience.

Purpose: To communicate information which can be referred to as reinforcement and reminder for technical and other information; it can be made audience participative by making it more like a workbook.

Leaflets: Small handouts given to an audience; could contain text and visuals; it could be distributed during events like marches and plays.

Purpose: To create interest and awareness; give information and suggest action.

Flash Cards: Series of cards with text, illustrations, and photographs to be shown to the audience either one by one or simultaneously by the user (communicator).

Purpose: To create interest the matter can be in the form of a story; to give examples and provide technical information; to generate active audience participation.

Scrolls: A series of illustrations with supporting text drawn and painted on cloth; fixed in a manner which requires either the audience or the user to unfold it.

Purpose: To create interest and awareness through stories, give information; to generate active audience participation

Models: Of various terrains, of ways of starting nurseries, plantations, water management, and other projects with movable elements; these could have cut-away sections and other elements which are difficult to show even during live demonstrations; these can be made by anyone, from the school children to professionals.

Purpose: To provide general and technical information; the elements of the model can be mobile to show the possible changes which can be made through direct involvement; can be used during live demonstrations.

Exhibition: Small or big depending on the mobility of the user; could contain posters, charts, photographs, and models; could be a major part of a mix-media event; exhibition can also be designed for mass production and distribution; a photographic exhibition is the next best thing to the media of audio-visuals and video for showing live examples.

Purpose: To create interest and awareness; to provide information; to show examples and comparisons; to suggest ways of individual and community participation; to communicate on many inter-related issues simultaneously; to get active audience participation and become a meeting point between activist and people.

Audio-visuals: A set of slides projected on a surface along with a narration; the complexity of the production can be varied according to its aim and resource availability; it can range from a simple one projector - one person - on the spot narration to a multi-screen completely synchronised production; it is not necessary to use only photographic slides; hand-drawn slides with illustration can be used; the materials used for slides can vary from celluloid to glass and the projector can be used by Chitrabani, Calcutta. The size of the image would depend on the projection power of the projector and the size of the surface available for projection.

Purpose: To create interest and awareness; to provide general and technical information; to show examples; to suggest possible action; to create an atmosphere for interaction between the activist and the audience.

Audio Programme: Media like songs or plays can be put on audio tapes for larger distribution and use; radio is an audio media; jingles can be made; discussions, opinions, and events can be recorded and transmitted from one place to another; recordings can be made of various technical instructions; the basic hardware required is a tape recorder which can easily run on batteries; radio is a centralised form of audio media, and it enjoys a reasonable popularity all over the country.

Purpose: To create interest and awareness; to provide general information and technical instructions; to remind and to reinforce messages and to suggest action; to take viewpoints and opinions from one set of people to another; to help begin a meeting.

Video: Video is a high technology media but in its final form is very simple to use; its initial costs are high, equipment is delicate and requires power to run it; video is an audio-visual form; its ability to show "real" people and places lends greater credibility to its content; especially so if the audience identifies with what is shown on the video; it has limitation in terms of the screen size; video is very much a part of television, a mass media form; but there have been attempts to use this media as a completely decentralised form of communication where it has been put into the hands of people at the local level; one group of people has communicated with another through recordings of each other; it is also a transitional form of media; traditional media forms can be recorded to reach a larger audience; animation can also be used; video can either be used as a passive media or as an interactive one; it is very useful for documenting views, opinions, environmental conditions, and work done over a period of time.

Purpose: To create interest and awareness; to give general and technical information, to show examples and changes over a period of time; to take viewpoints and opinions from one group of people to another; to suggest action and to show other people's attempts.

Film: This media is very similar to video, but in comparison it is more expensive to produce and use; advantage of this media over video is that the projection size is flexible; the visual quality is much better than video; its major disadvantage is the time it takes to reach a final form, unlike video where recorded images can be viewed instantaneously.

Purpose: Same as video except that it is not feasible to use for exchanging viewpoints of people from one place to another.

Songs: Words and messages put together in the local language and set to simple tunes; sung by activists, local performers and finally the audience; could be very effective with children.

Purpose: To create interest and awareness; to build an atmosphere for a discussion or a meeting; to reinforce simple messages.

Street Plays: Plays which can be performed anywhere, for an audience of about 100 people for a duration of 15-20 minutes without the use of many props; the characters of the plays can be inspired from the local, traditional folk plays; same is applicable for the media of stage theatre.

Purpose: To create interest and awareness; to attract audience and involve them in the plays; if possible, to start discussions and meetings between the activists and the audience.

Stage Theatre: This kind of theatre is good for a large audience; it would have to be a more organised programme and for a larger duration of time; various other media could become part of the stage props; local issues could be incorporated in the plays.

Purpose: To create interest and awareness; to provide general information and suggest action; to remind and reinforce messages; to highlight local issues and set up mock problem-solving sessions.

Puppetry: This is very interesting media; the characters can see and speak but are not "real"; provocative issues, therefore, can be tackled by the invisible puppeteer with less risk of upsetting the power lobbies; after all it's difficult to argue with a puppet! Glove puppets and shadow puppets are some of the simplest forms of this media; the glove puppets used by some organisations have a papier maché head while the body is like a glove; traditional string or shadow puppeteer can also be involved actively by the NGOs.

Purpose: To create interest and awareness; to give general information; to raise controversial issues and try to find solutions to them; to reinforce and remind messages; to suggest actions.

Animation: It is a technique in which the illusion of movement is created by recording a series of static visuals in succession; the recorded visuals are played back at normal film or video speed to get movement; it is a highly specialised media; very interesting and effective as it can make inanimate

object, drawings, and figures become mobile and come to life.

Purpose: To create interest and awareness; to explain technicalities.

Newspaper: It is a forum to supply news; greater public interest can be generated by news stories on the environment and the related issues; the decision-makers can also be made answerable to people through this media; it also allows people to air their opinions; NGOs, by involving journalists, can use this media to reach out to the literate population in the country.

Purpose: To create interest and awareness; to provide information about various programmes, their implementation and happening; to provoke reaction and to promote action.

Games: Learning through recreation; could be designed to suit different age groups; if mass-produced, they could be distributed or sold; complexity of the game would depend on the contents of the game and the target audience.

Purpose: To create interest and awareness, to provide general and technical information; to suggest action; excellent form of communication as it is very participative.

Personal Graphics: This would include anything worn on or displayed around a person; T-shirts, badges, stickers, and decals; a very popular form of communication with urban youth, it is used to make a personal statement, to show commitment as well as popularise a message.

Purpose: To create interest and awareness.

Visual Literacy

Except during a live performance, a visual is a two dimensional representation of three dimensional reality. Understanding of the visual would depend entirely on what associations the two dimensional representation has to the viewer.

Following is an excerpt from a study conducted in Nepal on visual perception. It was done to review the literature relating to studies relevant to the development of teaching material. It has been compiled by Helen Copper and published by the Commonwealth Secretariat, London. This has been presented with this paper mainly because the inferences drawn during the course of the study would be of immense use for designing two-dimensional communication material.

They used the following visual material:

1) a set of visuals showing common objects rendered in six different styles (see below);
2) a set of visuals to convey a simple idea through individual illustration e.g. smiling woman to represent a happy woman;
3) a set of visuals using juxtaposition of two unrelated elements in one

illustration to convey a meaning; one element was a familiar object and the other was a symbol; two types of symbols were used, internationally known graphic symbols and local symbols; and

4) a set consisting of a series of illustrations to convey an idea.

The study was conducted in different rural areas of Nepal; sites included backward region inaccessible by road by as much as four days. The results are very interesting from the point of view of a communication and lay person alike; the study is interesting because it covers areas where visuals have never been used to convey meaning; it is rare that a communicator would face so drastic a situation, but the conclusions and the practical implications of the study would be helpful in any situation where visuals have to be used to communicate.

Conclusions

Attempts to communicate ideas and instructions to unschooled rural villagers by means of pictures only are unlikely to succeed. Some of the reasons for this seem to be:

1) Unschooled villagers do not expect pictures to convey messages.
2) Pictures intended to convey messages often make use of symbols, the meaning of which cannot be known unless it has been learned.
3) The portrayal of objects in pictures may not be comprehensible for villagers.
4) Pictures intended to convey messages often consist of a series meant to be read in a certain order (often from left to right if the language of the artist is written from left to right). People who have not learned to read or write do not necessarily look at pictures in the order intended.
5) Even if the various objects portrayed in a picture are clear to villagers, they do not necessarily try to interpret the picture in a way that accounts for the juxtaposition of the objects portrayed.

The most effective style of picture is clear, realistic, without unessential background. Three-tone drawings or block-outs are better than more "simplified" pictures. The more stylised a drawing is, the less success it is likely to have. However, even quite a crude schematic drawing can be useful as a reminder of a message already conveyed by person-to-person contact.

Drawings are more likely to be successful if such things as buildings and clothes are based on locally familiar styles.

Practical Implications

Effort and time spent on attempting to communicate with unschooled villagers solely by means of pictures is probably wasted. However, since pictures can be in many places at once, and a development worker cannot, pictures can profitably be used to reinforce development messages conveyed to unschooled villagers.

Pamphlets and handbooks will probably be most useful if they are aimed at networks of literate people who can help to convey their messages to villagers. Examples of such networks are National Development Service

participants, government extension workers, and school-children. The pamphlets and handbooks can include pictures which can be used to remind villagers of their message, and advice for the networks on how to use these pictures and other visual aids such as demonstrations most effectively.

People using pictures and posters to reinforce development messages should discuss them with as many villagers as possible. They should make sure that the villagers recognise the objects portrayed and understand the message intended. The discussion may have to be handled tactfully in the case of subjects, such as pregnancy, which are likely to cause embarrassment in certain circumstances. If pictures are not adequately discussed and explained, there is a good chance that they will serve nothing beyond a decorative function.

People helping villagers to understand the message of pictures and posters should explain the meaning of any conventional signs and symbols used by the artist (e.g. upturned mouth for happiness, downturned mouth for sadness). It is likely that if this is consistently done for a time in any given village, the villagers will learn to "read" the messages pictures are trying to convey.

Posters and wallcharts should express their message in words as well as in pictures. The words should be large enough, few enough and simple enough to be read by children, even if the message is actually intended for adults. It can at least be hoped that children who are learning to read at school may read the message to unschooled adult villagers.

A single picture should not include a large number of objects, or attempt to portray several steps in a process. If a poster or wallchart consists of a series of pictures, these pictures should be numbered to indicate what order they should be read in. The picture style used will depend to some extent on the skill of the artist and on facilities and equipment available. Pictures should be as realistic as possible, and exclude unessential background detail. Material produced for large-scale distribution should make use of three-tone drawings or blockouts rather than more simplified drawings, while village-level workers can at least try to avoid extreme stylisation.

Unless there is some special reason for not doing so, pictures of objects, people, and the things people do should be made as much as possible like the objects, people and actions in the area where the pictures will be used. Such things as different styles of dress easily lead villagers to assume that a picture does not refer to their own village or their own life. Since there are great variations in styles and customs from one part of the country to another, material produced for national distribution cannot be equally appropriate for all areas, but village-level workers can take care with the details in pictures they are making or adapting for local use.

People preparing pictures for use in the villages should bear in mind the possibility that they will be taken quite literally by villagers. Thus, enlargement of a detail for effect may well have a negative effect on understanding of the picture. Of course, the depicting of an unfamiliar object, such as a magnifying glass, to explain the enlargement can only provide an additional obstacle to understanding. If people involved in producing pictures for use in villages could agree on a common "vocabulary" of signs and symbols, and if these symbols were consistently used and taught to villagers, the range of ideas effectively expressed by pictures could gradually be extended.

Any other symbols could be effective so long as they were easy to draw and consistently used, but since there does not seem to be in Nepal an established "vocabulary" of symbols which are widely used and recognised by villagers, there is much to be said for adopting symbols already in use internationally.

Use of colour in posters for villagers should probably be guided by two considerations. The first is the colour preferences and associations indicated by the study, which could lead one to use bright colours, particularly reds, to indicate happiness and goodness, and dull, dark colours for unhappy situations. However, the second, and perhaps more important consideration, is the likelihood of villagers interpreting pictures literally. It would seem most unwise to use colours in a non-realistic way merely to express a mood. However, a compromise between these two considerations may often be reached. For example, purple or bright pink could be used for the clothing of a happy woman, and dark brown or black for the clothing of an unhappy woman, but it would be unwise to use these colours for the women's faces.

Any communication aid, before being used on a large scale, should be tested thoroughly for what it conveys, and how it conveys. Audience feedback is very important. The more flexible the communication aid is, the better. Large scale use of inflexible communication aids should only be done for very general messages.

Any communication media should be designed keeping in view the intricacies of the audiences. Mass media forms with their generalised approach are better suited to urban rather than rural audiences. It is best to use a mix of different media as no one media can answer all the communication needs in a region on a subject.

Communication for raising awareness should start a thinking process in a viewer, through which the individual forms his/her own ideas and opinions as to the possible course of action to be taken. Ready-made solutions might be ignored if the audience does not identify with them. Alternatively they can misfire if understood inadequately by the audience. Communication is just the first step. A communicator is more than an information or publicity person. He/she is a catalyst, for a communicator should not only help find solutions, but also help in the implementation of those solutions. It's only then that the credibility of the communication and the communicator will be maintained.

Besides there is also a need for greater interaction and sharing of experiences between NGOs especially in terms of the use of media aids. Experiences of one organisation might help other organisations prepare communication aids better and faster.

VOLUNTARY ORGANISATIONS IN AFFORESTATION AND ENERGY SAVING PROJECTS

Walter Fernandes

Introduction

With the Seventh Five-Year Plan stating that the government would be prepared to work with the voluntary sector in the implementation of programmes, and organisations like the Wasteland Development Board stating that they want to work with the same groups, it has become necessary to study the capacity of the voluntary sector to implement many programmes. Similarly, international organisations as well as the government have been stating that it is important to involve the people in their own development. The Vice-President, R. Venkataraman, for example, is reported to have stressed at Lucknow on June 30, 1986, "the need to encourage participation of the target group in the implementation of the rural development programmes in the country." (Anon. 1986)

What is one to make of these statements? In practice, how has the government been implementing these programmes? Whose needs do they fulfil and whose interests do they serve?

To find answers to these questions, we studied a few projects by voluntary organisations all over the country. We chose one state from each region: Orissa from the East, Karnataka from the South and Maharashtra from the West. Unfortunately, time did not permit us to study any group from the North and the North-East.

Types of Organisations

We intentionally chose various types of organisations, some of them big with a good infrastructure and others small with very few persons on their permanent staff and small budgets. We chose several groups that had attempted afforestation or energy saving programmes. Some of them had succeeded and others had failed. A few of them have been able to go very far while some others have only made tentative beginnings but have not been able to take the steps necessary for success. A few have gone on the beaten path while others have taken pioneering initiatives. It was important to study the factors that facilitate all these processes and initiatives.

In order to analyse these factors, we concentrated on their understanding of the problem, the type of people they worked with, their decision-making process, their objective in this work, and the type of financial, human and technical inputs into the project. A combination of all these factors seems to have led to success. However, the introduction of the same factors has met with different types of reactions depending on the group they were working with.

The Understanding of the Problem

The problem itself is understood by each group according to its own interest and outlook. All are agreed that today there is an ecological crisis. The National Commission on Agriculture (NCA), for example, found that out of India's total land mass of 329 million hectares (out of which statistics are available for 305 million hectares), 69 million hectares were at a critical stage of deterioration. (Govt. of India 1976)

The Roy Burman Commission on "Forests and Tribals in India" has stated that 175 million hectares of India's land area has serious environmental problems. This amounts to 53.19% of the country's landmass (Government of India 1982: 12). When it comes to forests, it is clear that out of 71 million hectares (i.e., less than 22% of the country's land mass that has been declared forest area), only around 33 million hectares (i.e. 10% of the land mass) has a tree cover (Agarwal, Chopra and Sharma 1982: 34-35).

The consequences of deforestation and land deterioration are felt everywhere. Robert Allen has stated that every year, India loses six thousand million tons of its top soil (quoted in Bhagat 1982: 11). Industry feels the consequences in the form of raw material shortage. To limit ourselves to paper, board and newsprint production, the raw material required in 1991 is expected to be 5.27 million metric tons and the availability is expected to be only 3.21 million metric tons, thus causing a shortfall of 2.06 million metric tons. In the year 2000, the demand will be 8.12 million metric tons and the shortfall 4.94 million metric tons (i.e. more than 50%) (Agarwal and Narayan 1985a: 72).

We have already mentioned soil erosion as a consequence of deforestation and we can add others like floods, siltation of dams and reservoirs and loss of wild life (Viegas and Menon 1986: 66-68). But of much greater importance is the impact on the forest dwellers themselves. To them, food, fuel, construction material, fertiliser, and fodder are provided entirely by the forest. Most village crafts, like basket weaving, are dependent on raw material from the forest.

Deforestation has caused a major crisis in their lives. Our studies in Orissa (Fernandes, Menon and Viegas 1984) and Chattisgarh (Fernandes, Viegas, Menon and Chandy 1985) and others elsewhere, show that three decades ago, when the forests were lush and green, they provided all the needs of the forest dwellers. Today, however, the forest area accessible to them has been reduced by reservation. The availability of minor forest produce (MFP) has come down because of deforestation for industrial purposes, and they have gotten into the vicious circle of consequent impoverishment, indebtedness, land alienation and bondage. A study of their nutritional pattern shows that their intake, particularly in fruits and vegetables, is far below the standard set by the Indian Council of Medical Research (ICMR) (Ali 1984).

Tribals are the most affected by deforestation. Most of them live in the forest areas and though they are only 7.5% of the country's population, they form between 70-80% of the forest dwellers. Of these, 82% live in Western and Central India, 11% in the North-East and 7% elsewhere. Orissa, representing the Eastern and Central tribals, and Maharashtra, representing the Western tribals, speak for most of them. They have suffered more than the others. This is particularly true of their women. Deforestation has often meant

destruction of forests near the villages and as such deprival of fuel and fodder. As a result, women who do all the domestic work, have to walk up to eight kilometres each way, once every two days to collect fuelwood for the house. Moreover, the tribals, who until then had developed a culture that kept a balance between human and ecological needs (Fernandes, Menon and Viegas 1984: 175-190), and had developed a constructive dependence on the forest, have today resorted to a destructive dependence that cuts down trees for sale as fuelwood and timber. They are forced into this for survival, since they have been deprived of their life system on which they depended for their food and fodder. Women who collect fuelwood for sale have to walk up to 16 kms., once in two days to collect it, and their men may walk up to 30 kms. once in two days, to sell it (Agarwal and Narayan 1985b: 302).

Thus, one can notice that both the industrialist and the forest dweller are affected by deforestation, land deterioration and soil erosion. However, every group may choose to see only those aspects that confront it and understand the problem accordingly and choose solutions that suit this understanding. This is what seems to have happened with the Government. First of all, while speaking of the need for people's participation, its assumption seems to be, by and large, that the people destroy forests. That, for example, is the case of social forestry. In these projects, the attention of the decision-makers seems to be focused on the shortage of raw material for industry, and efforts are made to fill this gap. Forests are thus viewed only as raw material for the profit of industry, and the fact that the ecological crisis itself is caused by development and its effect is felt primarily by the poor in the rural areas, is forgotten. They ignore the fact that 75% of the country's population depends on land and its productivity, and about 10% on the forests (Govt. of India 1982: 6). It is also forgotten that forests are cleared for irrigation dams, industrial infrastructure, raw material and cultivation. Official documents only take firewood and timber needs of the rural poor into consideration. As a result, it accuses the people of destroying forests and makes efforts to fill the gap between the demand and supply of raw material, but not the needs of the people.

Social Forestry

In order to get over the ecological crisis, the government has suggested social forestry programmes. Many of these are funded by international organisations. When social forestry was first conceived, it was thought of as a mode of catering to the fuel, fodder and food needs of the forest dwellers. Hence, it was supposed to concentrate on trees that would be useful to the local people. However, studies of some social and farm forestry projects, like the one in Kolar district of Karnataka, have shown that farm forestry, in reality, has become production forestry. Farmers plant trees in fields where they traditionally grew millets (ragi) which is the staple food of the poor. Besides, ragi provides about 200 man days of work, whereas eucalyptus provides only 75 man days per year. (Shiva, Bandyopadhyay and Prasad 1983: 66-67). Moreover, as the former Inspector General of Forests announced at a seminar, about 90% of the seedlings all over the country are eucalyptus, with 80% of them planted by 20% of the farmers (Roy 1983).

Thus, instead of providing the needs of the rural poor, social and farm forestry seem not only to cater to industry, but also to increase the distance between the rich and the poor. At times, it even seems to deprive the poor of

what they already have, as is the case with the Kolar farm forestry scheme. The poor are deprived, even of their food and work, while the landowners get higher profits.

It is in the context of this destruction of the life system of the tribals and of other forest dwellers that one should look at the afforestation programmes. Whether plantations succeed or not, depends on whether the scheme responds to the needs of a given group. And this response itself, will depend on the understanding the Voluntary Organisation has of the problems of the people. At least three different approaches can be perceived in the case studies presented here. First of all, there are those who perceive afforestation purely as an income generating programme. Secondly, there are those who look at forests as a life system, to be preserved for the tribals. Thirdly, others think of afforestation and forest regeneration as a way of reviving tribal identity and of building their community.

Briefly, the success or the failure of an afforestation programme is to be judged according to both the economic viability of the scheme and the strength it gives to those who have been deprived of their life system. Whether a scheme succeeds or not in this sense, depends on three different factors: (a) the approach of the organisation and the participation of the people which such an approach can ensure; (b) this approach itself would depend to a great extent on the analysis of the situation and the role of the environment and the forest in the lives of the people; (c) the financial, human and material resource base or infrastructure available.

Approach and People's Participation, with Analysis

A way of studying the contrast in approaches would be to see the four programmes from Maharashtra. In these, one sees both the difference in analysis and the consequent difference in strategy, and as a result, the response of the people.

On one extreme, one would have the Pani Panchayat and BAIF which seemed to look at trees primarily as an income generating programme. On the other extreme, one has the Kashtakari Sanghatana which looked at forests primarily as a life system of the people, particularly tribals. As a result, their approach differed considerably. In between, one would situate NIRID, which understood the fuel shortage. In the case of the Pani Panchayat, development was viewed only as income generation. The group they were dealing with were medium and big farmers, mainly belonging to the upper castes. They certainly realised that an effort had to be made to ensure that benefits reached all groups. Hence, they formed the Pani Panchayat which brought about many changes in the society of that area.

However, as far as afforestation is concerned, they did not succeed in it, because the group they were dealing with, the big and medium farmers, look at their crops as income. They did not have sufficient sustaining power to wait for trees to grow. Similarly, they did not have enough confidence in the government to be certain that the rights over the trees they grew would come to them. They had seen enough government schemes that had deprived them of such rights. Hence, the Pani Panchayat had to go after the schemes that only

ensured immediate income. Their answer was cash crops whose profitability could be increased because of irrigation. But trees could not give that same amount of income immediately.

BAIF also looked at trees as income. However, the groups they were dealing with did not have the same possibility of making profits from cash crops. Moreover, the villagers they were dealing with needed additional income as they were not of the big farmer types who had enough to eat. They were dealing with small and medium farmers in a drought prone area who needed all the income they could get for survival. They saw the possibility of such income coming from trees grown on the wastelands which would not yield anything else.

However, BAIF had no people's participation whatsoever, and they did not need it because they were dealing with farmers who could look at trees only as income. Hence, if they saw the possibility of income generation in trees, they were prepared to accept the scheme. On the other hand, for the tribals, trees are not only an income but a life system. As a result, when BAIF began to work among the tribals, they had to ensure their participation because of the difference in outlook. To them, income alone did not mean much, but income combined with the revival of their culture and life system was important. This change of approach could not have been achieved without their total participation.

Such participation was possible in NIRID which identified one major aspect of deforestation, the shortage of fuel. Though it limited itself to one aspect, it analysed its causes well. The organisers realised that the tribals were forced to sell fuelwood for survival since deforestation had deprived them of their life system. Hence, their response was to encourage the planting of fuelwood in all the villages. This would ensure that the tribals themselves had enough of it and that they would get some ongoing income from it. Thus, even while selling firewood for income, they would treat forests as a renewable resource which they grew continuously and sold for income; not as a non-renewable resource when they would only cut existing trees without replanting any. Thus, the sale of fuelwood would become only one factor in the process of the regeneration of the forests.

The understanding of forests as a life system comes out much more in groups that work exclusively among tribals who have been exploited. This is the case with the Kashtakari Sanghatana in Maharashtra and PREM in Orissa, and to a lesser extent, with PIPAR and NIPDIT in Orissa. In these cases, plantation programmes are the result of a struggle by the people, particularly by the tribals who have been deprived of their life system, have been impoverished and, as a result, reduced to indebtedness and often bondage. They assert their identification with the forests in many forms. In the case of PIPAR and NIPDIT it takes the form of protection of forests, while in the case of PREM and Kashtakari Sangatana, it is primarily a struggle to acquire land for plantation programmes and seedlings for the same scheme.

Similarly, in the case of Samudaya and IDS in Karnataka, the people respond fast since they deal with an environmental problem that affects them immediately. In the case of IDS, it is the pollution of the Tungabadra River that deprives the people of fish and affects their health. In the case of Samudaya, it is the plantation of eucalyptus which deprives the poor of the land they had and impoverishes them further. The understanding of this

deprival and the analysis of the situation that views environment and forests primarily as the people view them, makes it possible for the people to respond to the initiatives of the external group. These initiatives were not accepted in the case of the Pani Panchayat, but Gram Vikas of Karnataka got a response mainly because it catered to a definite need of the people. Moreover, both Samudaya and Gram Vikas were able to communicate a message to the people in a manner acceptable to them. As a result, they were able to make afforestation successful.

What this means is that only the dominant sections can afford to view trees and the environment purely as an economic factor. In the case of all the others, there has to be a combination of their socio-cultural identity and economic benefits. Socio-culturally, forests and environment have to be situated in their proper context at the centre of their life. Economically, they have to be viewed as the source of their livelihood. Only if these aspects are attended to will the tribals and other weaker sections be able to become a part of the afforestation schemes. Otherwise, they may plant trees but the benefits will reach the stronger groups and they themselves will remain impoverished wage labourers. They would have no motivation whatever to stop looking at forests as a source to be destroyed for their livelihood, since it does not belong to them any more. Even afforestation schemes would be viewed by them as one more effort of the dominant sections to exploit them. As such, they will not get involved in them.

Another case in point would be Jagarana of Orissa. Though they work among tribals, they seem to lack clarity of perspective. As a result, they seem to view afforestation not primarily as the regeneration of an exploited tribal community, but primarily as an income generation programme. This view does not seem to appeal much to the tribals. They would like to situate forests in the totality of their lives. Otherwise, there is the danger of plantation programmes becoming only one out of many schemes which may be materially successful, but may not have a long standing effect, since the tribals may not internalise the value system of biomass regeneration. If they view it primarily as an income generating activity, then there may not be a long term vested interest in on-going afforestation programmes.

If properly guided, there is a possibility of the Gram Vikas project of Orissa gaining permanence. Today it seems to depend to a great extent on the infrastructure of Gram Vikas itself. The internalisation and transfer of this credibility to the people will ensure its continuity as a regeneration of the tribals. This cannot be difficult because their work in the Kerandimals began primarily as a struggle by the tribals for the reclamation of their trees and land. Afforestation viewed within this perspective will lead to the internalisation of its values by the tribals, and they can re-affirm their identity in it.

Infrastructure and Resources

While internalisation of the value system by the tribals can lead to its continuity and even replication, in the short run, the material success of the project depends to a great extent on the infrastructure of the voluntary organisation. A case in point would be BAIF and NIRID of Maharashtra, Gram Vikas of Orissa, and Jnana Jyoti and IYD of Karnataka. Government and other resources tend to flow to groups that have a well established infrastructure.

Thus, OREDA has chosen to work with Gram Vikas, which did not have the technical expertise it needed but acquired it slowly. The same can be said about Jnana Jyoti of Karnataka. They did not have the expertise, but had the contacts they needed and had a base among the people. Whereas, the Indian Institute of Science (IIS), which had the expertise, needed just such a group. But to come in contact with the scientists of IIS. was not easy. It needed a group like Jnana Jyoti which could contact the scientists because of the infrastructure of their parent organisation, the Jesuit province of Karnataka. Similarly, the Institute of Youth Development (IYD) had the support of various other groups whom they could establish contacts through the government, as well as with buyers of seedlings in many talukas. In the case of Gram Vikas of Mulbagal, Karnataka, it was the contacts of the former forest officials that helped, and then became one of the factors that ensured the success of the programme.

The Attitude of the Government

In fact, the attitude of the Government depends to a great extent on the infrastructure. A base among the people does not ensure the support of the programme. In fact, a very serious popular base can alienate the group from all official resources. Such, for example, is the case with PREM in Orissa, and Kashtakari Sanghatana in Maharashtra. They have been active among the tribals who want to acquire land and plant trees as a mode of building their own community. But, such an effort goes against the vested interest of the landlords, and others, who have been exploiting them and are not prepared to see them coming together. Hence, all their efforts to acquire land have gone to waste. PREM, for example, has been methodically trying to get revenue land which has been encroached upon by big landlords. The Revenue Officials, controlled by the same landlords, are not prepared to give them any land. The forest department is not prepared to supply seedlings and other facilities, until the people acquire land. Hence, in spite of their base among the people and the certainty of success if they went into the plantation programme, the lack of support from the government and the infrastructure to acquire it prevents them from implementing their projects.

In other words, the Government is prepared to support only those groups that have an infrastructure of their own and can stand on their own. Whenever possible, they support only the groups that do not question the present system. But without challenging the existing system, implementation becomes difficult. That, for example, is the case with Gram Vikas in Orissa. The Wastelands Development Board is prepared to fund them, but to get land they have to struggle against the vested interests and get no help whatever from the government. Because of the contacts they have at the top, they would be able to influence the decision to some extent, something that most groups cannot do.

It is the groups that view afforestation only as an economic programme that get all the support. Such seems to be the case with BAIF and to some extent others like Gram Vikas of Mulbagal, Karnataka and even the chulha and bio-gas training programmes as long as they do not threaten the existing structures.

In other words, unless measures are taken to view afforestation in its totality, as the life system of the tribals and the weaker sections, it can

become just one more way of strengthening the already strong, without its benefits reaching the poor. Moreover, if the existing infrastructure of the agencies is used, without the government or the others wishing it, it may in practice, become a mode of weakening the voluntary organisations themselves. Those with a heavy infrastructure can make the implementation of the material part of the project successful. Because of this success, they are invited constantly for meetings and for consultancies by governmental and semi-governmental agencies, and even by voluntary organisations outside their area of operation. One should remember that most voluntary agencies depend on one or two individuals, and if they are taken away from their area of operation frequently, then the educative part of their work may get weakened and, without their realising it, the best programme meant to support human development can turn into a purely economic project without the growth of the people. In other words, the whole objective of the project may be weakened because of the frequent absence of these persons.

What this means is that instead of betting on the strong and using the infrastructure that already exists, the governmental and other agencies should support those organisations that have a capacity to work with the people and make the project successful. The government should help them to build their infrastructure. The effort should be to build up a local resource base which can support other organisations in the area.

Similarly, what these organisations need is regular information about the existing schemes and simplified procedures to ensure that they do not have to spend too much time on them. Hence, if they are to implement them, then their procedures have to be simplified. Simplified procedures can make the schemes accessible to those that do not have a heavy infrastructure, but have to depend on two, three or four persons. As things stand, every group needs to have a vast expertise to cater to these procedures. Briefly, it is possible for voluntary agencies to get into afforestation and make it successful, both economically and from the human development point of view, if they get the proper support.

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BIOMASS REGENERATION AND GROWTH OF THE COMMUNITY
A PROFILE OF GRAM VIKAS, MULBAGAL, KARNATAKA

Gram Vikas is a voluntary organisation, set up by Dr. Anantha Iyer, in the Mulbagal taluka of Kolar district in 1981. After his post-graduate degree in Botany and a diploma in forestry, Dr. Anantha Iyer, a native of Devarayana Samudra in Mulbagal taluka joined as a Ranger in the Forest Department of the erstwhile Mysore State. Later, on a scholarship from the Tatas, he did his Ph. D. in the USA. On his return, he joined a plywood factory in Assam, where he worked for 17 years. Later, he taught at the Rishi Valley School for 14 years and thereafter, took up consultancy services in forestry with the Arunachal Pradesh Government and OXFAM.

Having involved himself with various action groups through Oxfam, he conceived of a place where he could work and experiment with his ideas. Since he was familiar with the area, and also nostalgic about his people and land, he started working in Mulbagal.

The entire district of Kolar (the eastern most of Karnataka) has been declared a drought-prone area. Mulbagal, one of its 11 talukas, has a geographical area of 82,246 hectares (797.28 sq. kms.), of which only 2,072 hectares are under forests (2.51% of the total geographical area). Most of it is without a tree cover. Where there are trees, they are mostly eucalyptus. Its population was 170,682 in 1981; 145,920 of them (84.32%) were in the rural areas and literates formed 28.43% of the total.

At present, it has a sown area of about 35,658 hectares (43.35% of the geographical area) while the net irrigated area is 8,121 hectares (22.77% of the net sown area), 5,225 hectares are irrigated by tanks and 2,886 by wells. Dry cultivation practices are prevalent in the area. There are 59,311 cows and bullocks, 12,613 buffaloes, 56,910 sheep, 10,927 goats and 91,895 poultry birds in the taluka.

Growth of Gram Vikas

To begin with, Dr Iyer was appalled by the malnutrition in the area. Hence, initially Gram Vikas concentrated on the establishment of balwadis which attempted to inculcate school-going habits among the children as well as fight malnutrition through nutrition programmes. At present it runs 22 balwadis with a total strength of 1,200 children, all of them from poor and low caste families.

People's participation in the setting up and running of balwadis was conceived as the key factor in organising them. The people of the area were asked to contribute for the balwadis, by way of labour and material. In course of time, the meetings evolved into a Gram Abhivriddhi Sangha (Village Development Association) for men. Women, too, were called in to discuss the various problems that would arise in the balwadi regarding children's nutrition and development. In the beginning, these meetings did not make much headway. Later, when certain economic programmes were introduced and made part of the programme, women's meetings gained momentum.

The first economic programme to be introduced for the women's organisation was preparation of beaten rice for the balwadi children. The initial capital was provided by Gram Vikas and the women from the area prepared the beaten rice which was supplied to the balwadi. The profits thereof went into the funding of Mahila Samaj activities. Increasing returns stimulated more women to join the programme.

All the economic programmes that were undertaken by the Samajs were the outcome of wide discussion on their own life situation and problems. The following programmes were undertaken:

A. Hiring out Chandrika (a bamboo made material used in cocoon rearing);

B. Sheep rearing: a bank loan was arranged for each of the women for rearing one sheep;

C. Cattle rearing and milk cooperative: a bank loan was arranged for the purchase of a cow or a buffalo;

D. IRDP schemes were implemented through the Samajs or Sanghs;

E. Nursery programme: raising of seedlings and selling as part of farm forestry programmes;

F. A fair price shop at Seegenahally;

G. Many of the Sanghs have undertaken labour-intensive activities like brick-making, mat-weaving, hiring of bullock carts, etc;

H. Sanghs also arranged to pay up the debts of those who have mortgaged their lands and release them to be cultivated by the owners; these loans were to be paid back in easy installments with nominal interest;

I. The "Child Sponsorship" programme of CCF was introduced to cover non-school-going children to motivate them to attend evening non-formal classes; it also covered school-going children to back up their school studies. These children also participate in nursery raising programmes.

Now the people of the area have formed an apex body called GAPS - Grama Abhivriddhi Pradhana Sangha - (Village Development Primary Association), which is governed and run by the people themselves, with a representative from Gram Vikas on the governing body.

Origin of the Afforestation Programme in Gram Vikas

With a penchant for a clean environment for children, Dr. Iyer motivated them to plant trees in places adjacent to the school or balwadi. The process of tree planting was utilised to give the children an awareness of their environment and the need to love trees. Today, every balwadi is surrounded by a "mini-forest". Children are also educated to grow a small nursery and are involved in preparing seedling packets and watering the plants. They are also motivated to plant trees around their home. Social occasions and

extra-curricular activities are used to introduce "tree consciousness" among children. Every pretext is found to "create" an opportunity to distribute seedlings such as birthdays of children and feasts.

If Dr. Iyer was motivated, Mr Y.M.L. Sharma (former Principal Conservator of Forests, Karnataka and a governing body member of Gram Vikas) enthused men and women to participate in the afforestation programme in a big way. Mr. Sharma is also in charge of raising forestry for the Neyveli Lignite Corporation in Tamil Nadu. In this capacity he created a market for the saplings that would be raised by the people and for the seeds that they would collect. This economic activity made the people aware of the forests and helped them to know about afforestation programmes. With increasing demand for the seedlings in the local market (for farm forestry), people's expertise in nursery raising continued to be in demand. Later on, the Forest Department of Karnataka, who were in need of seedlings, approached Gram Vikas to meet their requirements.

While raising seedlings for sale, they also realised the scarcity of firewood in the local areas. This realisation led them to think of various ways and means to protect the old trees, and raise more in the surrounding areas. To protect trees, they revived an age-old custom of building a platform with a lot of mud around the roots of the tree and making stone embankments round its circumference. The platforms served as a protection for the roots, as a place for the people to meet informally and for the children to play.

With the accrual of funds through various economic activities, the two Sanghas were able to buy land to raise community woodlots. They grew various kinds of trees on these lots; neem, jack fruit, honge, hippe, nerale, gulmohar, cocunut, eucalyptus, subabul and others. The area covered under community woodlot is about 1.5 acres in each village. The Sanghas take care of planting, watering and weeding the plants. People have also planted similar seedlings and other flowering plants around their houses and the bunds in their fields.

The Factors of Success

Thus, one can see the culture has caught on and is not limited to Gram Vikas sponsored projects. The reason for this could probably be found in the approach that ensured people's participation and led to awareness building. In their regular meetings, the Sanghas that began with a discussion on their day to day problems, initially viewed the raising of saplings only as an economic activity. However, Gram Vikas made it a point to use the activity of the balwadi, taking seedlings as a starting point for discussion. This enabled the people to go beyond trees and view afforestation as their own need. Attention was paid to the number of trees in their area, how they had disappeared, and the consequences of these changes on the people. Women discussed the problem of getting firewood for their domestic needs. This became an educative process for the people as they realised during the discussions with the animators of Gram Vikas that recurring droughts and decreasing rainfall were all consequences of the depleting tree cover. Apart from being a major need, the programme was also an economic activity that gave them additional income. Hence, the people got involved very actively both in the debate and action.

Initially, the Sanghas were not very active as they were only gathering to discuss the problems of balwadis. Later, when an economic activity like the nursery was introduced, a keen interest was generated in the programme. Thus, an economic activity became a catalytic agent for the community to come together.

Social conditioning of women started loosening up. When women gathered in the Mahila Samaj, most older and middle aged men and even some youth would tease them. In many houses, husbands reacted negatively and did not want their women to attend the Samaj. When the women were able to earn a little money through the activities of the Mahila Samaj, the teasing and restrictions diminished. Slowly, the women started gaining power in societal matters. They began to be called for Panchayat meetings as representatives of the Samaj. They were even able to encourage widow remarriage and protect their interests in the Panchayat. There was greater awareness of the reality around them. When women went to get loans from the bank, some of them were turned down as their husbands were defaulters with the bank. However, when the Deputy General Manager of Canara Bank, herself a woman, visited the bank's branch in the area, all the women of the Samaj demanded that they be treated as individuals and their husbands' defaults should not come in their way when they applied for loans from the bank. As a consequence of this, when drawing loans from the bank, the husband's name is not mentioned any more in the application.

Some tangible social changes took place as a result of the Sangh's gatherings, such as persons from several castes dining together and sharing meals prepared by members of other castes. In Seegenehally, the Sangh was able to take up the issue of the scheduled castes being prevented from drawing water from a well near the upper caste houses. As a result of the stand taken by the Sangh, the village Panchayat was forced to agree to allow any community to draw water from any well. In Nachahally, both men and women Sanghs were able to prevent the preparation of illicit liquor in the village and its vicinity.

The Method of Afforestation

A. Protection of old trees: As described earlier, there is a growing consciousness among the people of the need of protecting trees. The slogan among them is, "It is cheaper to protect a 100-year old tree, than to raise a seedling for five years." Thus, many people volunteer even using their own money to protect an old tree as it is an age-old belief among the people that they would obtain Punya (merit) through such acts.

B. Raising of Nurseries: The nursery is raised for three different types of agencies viz. (i) for private persons for farm forestry. The seedlings are casuarina and eucalyptus. The Neyveli Lignite Corporation is included in this category; (ii) for the Forest Department for their distribution purposes, according to their requirements and choice, the Forest Department usually requests eucalyptus, casuarina, subabul, tamarind, neem and a sprinkling of other species. During 1985-86 the Forest Department ordered eight lakh seedlings for distribution in Mulbagal taluka; (iii) local requirements for planting trees under the community woodlots programme. As the Forest Department normally does not lift all the seedlings it orders, the people who grow the nursery motivate other local people to plant trees on their lands.

Despite the awareness among the Sangha members that eucalyptus is not very useful to meet their biomass requirements, they grow eucalyptus to meet the demands of the Forest Department. In other words, the economic need overtakes the awareness of the problem.

C. Type of trees grown:

(1) for farm forestry: casuarina and eucalyptus

(2) for community woodlots:

a. fruit yielding trees like coconut, mango, jackfruit, and tamarind
b. fuelwood trees like subabul, honge
c. medicinal plants.

(3) near their houses:

a. fruit yielding trees
b. flower plants
c. trees for fuelwood.

D. Type of techniques:

(1) Nursery - preparation of pouches with 1:1:1 ratio of red mud, sand and manure (mostly farm manure)
- 2 seeds are put in each of the pouches and watered.

(2) planting usually takes place in the months of August and September.

(3) contribution of the people in the form of labour, sand, mud or manure.

E. Survival rate: only 40 per cent; the low survival rate is attributed to the fact that the only source of irrigation is rainfall, which is meagre in the area.

Technical Organisation

The success of the organisation depends not merely on its own strength but also on the technical and other support it receives from others. There is, first of all, the support received by Gram Vikas from other agencies. Secondly, one should find out the support given by Gram Vikas to the people. It may consist of contacts with the government and other organisations which it transfers to the people and thus empowers them. Whether the people have been empowered as a result of the input would be one of the criteria to judge the success of the project. This empowerment requires various types of support such as initial capacity and technical knowledge. The long-term success depends on how these inputs have become supportive of the people's organisation.

(A) Support received by Gram Vikas:

1. Its governing body members are well qualified in forestry.
2. There is a close relationship with the Forest Department because of Y.M.L. Sharma, who was working in the Forest Department earlier.
3. Issues and ideas are shared at the FEVORD-K through other voluntary agencies; hence they get support from other voluntary organisations.
4. Seminars and meetings on social forestry organised by Gram Vikas as well as others.
5. Mutual learning between the Sanghs through the Pradhana Sangh.

(B) Knowledge of Government institutions:

1. Since Gram Vikas' members are influential, various Sanghs have been introduced to many Government institutions and officials.
2. Regular visits by various persons from other voluntary agencies to their villages and Sanghs facilitate good exchange of ideas on Social Forestry and other schemes.
3. Attendance of the Sangh members at various meetings organised by voluntary agencies on social forestry helps them to know about various schemes and technical and other support available.
4. Invitation to DFO, Ranger and Forest Guard for the meetings organised to coordinate nursery programmes in all the Sanghs.

(C) Type of support to the people from Gram Vikas:

1. Initial capital
2. Technical guidance
3. Organisational support
4. Supply of animators
5. Introduction to various officials

(D) Type of support from Government institutions:

1. Financial assistance from the bank
2. From the Forest Department: supply of seeds in plastic pouches; technical information; payment of half the cost in advance; purchasing of plants at reasonable rates.

Constraints

However, a good amount of this support came only after the scheme had more or less succeeded. Initially, the group had to work under several constraints.

A. Lack of support from the Forest Department or banks in the initial stages of the programme when there was pressure on the people from all sides;

B. The lower level Forest Department personnel are busy with their own nurseries and are not ready to cooperate with the people; only

pressure from above moves them. In such cases, it is difficult for the people to take any steps without considerable influence. This tends to make them dependent on the Gram Vikas' governing body members.

C. Government policies are not adequate to supply land to people for afforestation; there are too many bureaucratic procedures involved. Because of these procedures, the policy ultimately fails to help the people. For example, the Forest Department had asked the people to identify the real vacant or waste land, known in Karnataka as "C" and "D" class land. Even after identification, the Forest Department could not hand it over to the Sangh; there seems to have been some vested interest in not transferring it to the people.

D. Supply of plastic pouches and seeds is neither on time nor adequate;

E. The types of seeds they require are either in short supply or are not available; even available seeds are of poor quality.

Cost-benefit Analysis

Ultimately, the success or failure of a project depends also on its economic viability. From that point of view, the Gram Vikas projects seem to have been successful. In nurseries, for example, the cost of production is Rs. 11 per 100 seedlings which includes labour cost. In 1984-85, the sale price to the Forest Department was Rs. 15 per 100 seedlings. In 1985-86 it is Rs. 20. As for the community woodlots, the expenditure for the whole area planted is Rs. 4000 per year for a period of seven years. The yield expected is about Rs. 5000 per annum from the seventh year onwards. It will increase by about 10% in every subsequent year. The period of yield will vary according to the species.

Sources of Financial Support

A. Gram Vikas through their funding agencies

B. NOVIB - for community organisation

C. At Seegenehally, OXFAM partly funded the purchase of community woodlot land.

No direct subsidies have been received from the Government for the tree project except supply of plants free of charge.

Role of Women

The participation of women has been good since the Sanghs and Samajs were organized separately for men and women. They have taken more initiatives, and their participation is more at the group and community levels. Women have slowly gained respectability both at the village and the Panchayat levels. They are also able to assert their point of view and influence the decision-making process at the Panchayat level. Even in the plantations, they have their say on the species. Most economic programmes undertaken were

suggested by women and were accepted by the banks according to the conditions worked out with their Sanghs/Samajs. One factor that helped was their almost cent per cent loan recovery. In certain cases, banks were even forced to change their regulations.

Conclusion

In conclusion, we can identify a few factors that helped the project to be successful. The first among these factors is the presence of Gram Vikas. There would not have been any forestry programme in the area but for the catalytic presence of Gram Vikas. Secondly, the income-gathering component of the programme and other activities of Gram Vikas gave sustenance to the process. Thirdly, the organisation of women separately from men accelerated their level of participation in decision making and helped them to gain some power. Fourthly, without the educational inputs by other voluntary agencies, no programmes can be successful, as the official machinery, whether of the forest department or others, can rarely establish any rapport with the people or have the will to do so. Fifthly, we can see how a well chosen entry point can be used for the education of the community. In this case, it was Gram Vikas.

From the above, one can deduce that Gram Vikas have been partially successful in their work and have set a process in motion. They were successful with women because of the choice of the entry point (children). Discussion on this theme brought them together and helped them in other activities. Further, Gram Vikas was involved in definite issues like (a) mobilising institutional support; (b) obtaining credit facilities; (c) protecting trees and planting new trees.

However, the stage of a genuine people's movement is far away. Empowering the poor is also only in its early stages. There is a need for wider linkages in the neighbouring areas to strengthen the organisation. Even though there is much consciousness on the lack of trees, very little attempt is made to introduce energy-efficient chulhas which can preserve forests and save the time of women and children. The people are not even aware of the existence of Astra-Ole. Gram Vikas had experimented with two such chulhas, but the experiment was not successful. Therefore, it did not reach the people. In other words, while Gram Vikas is successful in turning afforestation into an income generating scheme, it still has to see the link between the people and the environment in its totality.

A STREET THEATRE GROUP PROPAGATING SOCIAL FORESTRY

The meaning of Jatha is a journey by a group of people who move from place to place proclaiming a certain message. They utilise various forms of communication. In this particular case the method used is street theatre by the Samudava Theatre Group. It was the first of its kind to take up this medium and enact street plays in various parts of Karnataka. This troupe viewed street theatre as a political tool. Hence, the plays they enacted were the Belchi massacre, the Chesnala mine disaster, and Kuri, a political satire. These plays tried to highlight the atrocities and injustice perpetrated against the weaker sections, and others, during the emergency.

This Jatha resulted in the coming up of 22 theatre groups in various parts of Karnataka. They played the same role as Samudaya was doing in educating the people. But many of these groups have died out because Samudaya is an organ of a political party. With the political party's control and the rigidity of ideology, the artists were not allowed to have their say. With dissent, many have withdrawn from the organisation. Many of those who are still in the field have become independent of the parent organisation. While keeping the political orientation of street theatre, they keep an open mind in their approach.

This paper refers to one such group that used the tool of the street theatre two years ago to mobilise the people of Chitradurga taluka against eucalyptus monoculture, which was encouraged by the Forest Department of Karnataka as an essential component of farm forestry. The troupe also tried to reorient the farm forestry scheme in favour of the people, particularly, the Scheduled Castes. In the process of drama, discussion and interaction with the people, the troupe itself changed its outlook considerably. Many new, innovative afforestation programmes have been initiated in some of the villages. But in this paper, we shall not be discussing these schemes but shall be concentrating only on street theatre that propagated the message.

A Brief Description of the Area

Chitradurga District in eastern Karnataka has nine talukas of which Chitradurga is one. The total geographical area of the taluka is 123,502 hectares (1373.35 sq. kms.) of which only 12,028 hectares, i.e., 9.73% are forests. The net sown area is 63,584 hectares or 51.48% of the geographical area, while the net irrigated area is 7,219 hectares (5.84% of the net sown area). There were 56,666 cows and bullocks, 26,184 sheep, 17,533 goats and 27,662 poultry birds in the taluka. In 1981, the taluka had a population of 260,968 persons, 186,328 or 71.42% of whom lived in the rural areas. Literacy in the district was 44.8%.

The Organisation of the Jatha

The Federation of Voluntary Organisations for Rural Development in Karnataka (FEVORD-K) came under the banner of Manu Rakshana Koota (MRK) to take up the issue of eucalyptus plantation by the Forest Department in Karnataka. The Jatha in Chitradurga and Bellary was planned as one of the programmes of MRK. The objective of this Jatha was to enact street plays that would build up awareness among the people regarding the monoculture of eucalyptus and to encourage the people to plant trees of various kinds. The target group was the villages that had beneficiaries of the farm forestry programme of the Karnataka Pulpwood Ltd., a joint sector undertaking of the Forest Department and Harihar Polyfibre Ltd. This programme encouraged farmers to plant eucalyptus, since its main objective was to produce raw materials.

Mr. Umashankar and Mr. Kishore, who had participated in the Jatha organised by the Samudaya troupe, were called by MRK to help with the Jatha. As they could not agree with the methodology of MRK, they organised the Jatha separately for Chitradurga district, under a different name, with the financial help of MRK. There were 13 members in the group. Half of them were

already friends. The other half were people of the district whom they invited to participate. Both Umashankar and Kishore had other experiences in organising Jathas. Uma had earlier organised a puppet show on science for children. Various schools had invited him and had paid for his stay and performance. They had also organised an art exhibition with which they had toured various villages and raised money by selling screen-printed picture post cards. Having had such experiences of relying on people, they organised this Jatha without many amenities or financial inputs.

The Jatha was planned for ten days. Thirteen members underwent training for four days and the remaining six days were spent on meeting the people, visiting various target villages and performing the street theatre. The plays tried to portray social forestry and show how it affected the people and who profited from it. On the final day they invited various signatories and presented a memorandum to the Deputy Commissioner to change the concept of farm forestry and to give the land to the people to plant trees from which the people would benefit.

Training

The training was planned by the participants themselves. These persons came from different backgrounds. Some were college lecturers, some trained social workers and the others, youth of the area. The training programme consisted of the participants discussing the structure and symbols of street theatre and then practising techniques like improvisation and ex tempore speech. Several schemes were thus drawn up, put into a street theatre form and practised, to draw courage and experience to perform in public. Certain basic concepts like, what is nature, pollution, environment, social forestry, and the harm and good of eucalyptus, were clarified in order to become effective. For example, while discussing nature everyone brought out what nature meant to themselves. It was not an intellectual exercise but an emotional one. They discussed how each one discovered and confronted nature. They did not discuss it in terms of profit and loss on money but as a value, such as, how nature has enriched their minds and hearts.

While discussing pollution, they looked into the experience of the Tungabhadra River being polluted by the Harihar Polyfibres Factory, how it affected the inhabitants, its effects on the health and occupation of the people around, on land and its fertility. This led to a reflection on the nature of the injustice suffered by the people and on possible redressal.

They studied the environment in terms of forestry. They discussed how the tree cover has been depleted and the role played by the vested interests in deforestation. They saw how solutions such as social forestry are used by a private enterprise for its own advantage and against the people, and how the government is insensitive to it. They also studied certain technical aspects of eucalyptus, such as its water intake, its effects on ground water and lack of undergrowth and the consequent absence of any biomass for other uses. They also studied its advantages, such as its fast growth and not being browsable.

After this discussion and reflection, each member of the team was assigned different responsibilities in the execution of the programme. Along with the street theatre, they also composed and used songs, held discussion and gave speeches wherever possible. They used walls and roads to write slogans, thus turning it into a concerted campaign.

The Mode of Operation

A) To contact the people in the target villages that are affected by the Farm Forestry Scheme and inform them creatively of the whole issue through drama, speeches, songs and discussion.

B) To create public opinion through well-known people, through the press, preachers, doctors, scientists and others.

C) To meet government officials and register protest through memoranda.

A. To visit the villages, meet the people and create awareness

Before the street theatre was put up, one person from the team was assigned to study the village, the people and their problems. He was also supposed to identify powerful persons in the village, who had a vested interest in growing eucalyptus. So the social situation and problems were noted down, and depending on that, the street theatre was discussed and reframed.

1) They discovered that in every village there were a few landlords who were growing eucalyptus nurseries for the government, and therefore, had a vested interest and objected to the entry of the theatre group.

2) The people, especially those from the Scheduled Castes, had lost their lands which they had encroached upon and were cultivating, because they were taken over by the Forest Department. Therefore, for the SC/ST inhabitants, farm forestry was more a land issue than eucalyptus monoculture.

3) In some villages the government had taken over and leased this common land to plant eucalyptus. Earlier, this land was used for growing food crops. They were now cultivating eucalyptus not because they liked it but in order to earn a living. All these problems were brought out and highlighted.

B. To create public opinion

The team held two press conferences, one in Davanegere and the other at Chitradurga. At Davanegere the press gave a good coverage and even published their pamphlet and itinerary along with the purpose of the Jatha. Even the Dalit Sangharsh Samithi joined their journey and press conferences to show their solidarity with the whole programme.

C. Meeting government officials

A memorandum signed by various villagers demanding that farm forestry meant to plant eucalyptus for industry be scrapped, and the land returned to the village. This memorandum was presented to the government officials. But not many villagers who had signed the document were present.

Impact of the Programme

The performance made an impact both on the theatre group and on the people. As far as the group of performers was concerned, it built in them a feeling of:

A) Tremendous group and community belonging.

B) Their commitment to the people was further enhanced and in some cases one witnessed total transformation.

C) Their theoretical concepts were challenged and put to test in the real situation. This exposure helped them to understand the rural situation better. Among other things, the Jatha taught them that land ownership was the real issue, not eucalyptus plantation.

D) Their life style and dress have completely changed since then. They felt the need of being consistent with the message they preached and have decided not to wear polyfibre any more. Many of the group members are now working at the grass roots level.

E) In this work they have realised that street theatre is a good medium of communication of ideas among the rural people.

There was an equal impact on the people. It was mostly in the form of a better understanding of their situation. First of all, one noticed among them tremendous awareness about the effects of eucalyptus on soil fertility, ground, water and non-availability of bio-mass for fuel and fodder. Secondly, it led to much greater awareness of their own socio-economic situation and of the role played by the forest department and other vested interests.

In every village they visited, they were able to form a village committee. These village committees were then joined together to form a district committee. Their work was to continue to build public opinion through respected citizens of the area and to collect scientific data on social forestry and eucalyptus as a support to the campaign. This work was undertaken by the local team headed by Papanayak.

Problems

1) Often they found entry into the villages difficult because of suspicion and opposition from the landlords who had a vested interest in raising the eucalyptus nursery. However, this was overcome to some extent since a certain amount of awareness had already been built among the people, as a result of the coordinated campaign through wall posters and slogans

2) Mistaken identity by the police: They were suspected of being dacoits and their movement and dress were cause of concern. But the press conference and publicity by the press helped them in overcoming both the suspicion of the police and resistance from the vested interests.

3) As they had decided not to make use of the jeep provided to them, they had to spend plenty of time on travel by bus or on foot and this was strenuous.

The Factors of Success

One can see then that even a short event like a street theatre can create awareness in the people about their situation. What is equally important is that it was an interaction between the people and the performers. The theatre group did not just "educate" the people, but exposed themselves to the situation of the people. In the process, they modified their theories and the understanding of the village and its environment. The people, in turn, were able to better analyse their own situation.

Several factors seem to have led to this success. First of all, they identified the target group properly. They chose mainly villages in which a large acreage was allotted to Farm Forestry Schemes under the joint sector company Karnataka Pulpwood Ltd.

Secondly, they chose to perform in the Harijan part of the village or both at the temple and the Harijan village area as the Harijans could not come close to the temple. In other words, the SCs were the real target group since they were the most affected and therefore they discussed the problems more intensely.

Thirdly, people's participation was ensured since 50% of the group was from the local area and they actively participated in the whole programme. In most villages, the local people gave full cooperation during the performance. In fact, some of the local youth wanted to accompany the drama troupe to other talukas. Mr. Papanayak, a member of the troupe, was appointed to continue the social forestry project in the right direction. This participation was seen when the group performed in the villages. Prior to the performance, some of the people gave them a clear picture of the village and its problems; they actively participated in the discussions and supplied the drama troupe with food and other necessities.

Conclusion

This is a case of an external group communicating a message to the people. This was done without much financial cost. The only cost incurred by the troupe was on food during the four days of training and during travel. The contributions by people have gone a long way in reducing the cost. Given that the people themselves bore the cost, one cannot ask whether the social gain of awareness and experience within the group and among the people is comparable to the cost of the whole Jatha.

One can say that these Jathas are a very fast process of building awareness among the people and at the same time a good exposure of the performers to the target groups. With proper follow-up programmes and education, this Jatha can be a good tool for the mobilisation of the people. It is too early to say whether the follow up of this troupe is of the type that will genuinely motivate the people for the regeneration of their bio-mass.

SOCIAL FORESTRY AND ENERGY SAVING PROGRAMMES: GRAM VIKAS, ORISSA

Gram Vikas is a product of the Young Students' Movement for Development (YSMD), an organisation launched by some students of Madras University in the late sixties. The members of YSMD decided to commit themselves to developing rural India. Amongst its first activities was providing relief to the victims of the cyclone that wreaked havoc along the coastal districts of Orissa. Of the 200 YSMD volunteers exposed to the rehabilitation programme for about a year, some decided to settle in the region to start developmental projects.

They soon discovered that the benefits of their schemes did not go to the weaker sections of the community. The water from three, lift irrigation projects (which were taken up as the key to raising agricultural productivity and affected the largest number of people), for instance, was cornered by the dominant landed castes. Such experiences helped to shape the philosophy and strategy of the YSMD.

In 1976, it was invited by the Ganjam district authorities to work among the tribals settled in the Kerandimala, a range of hills in the district. A year later YSMD shifted to the area and two years later registered itself as a society to be known as Gram Vikas. Its headquarters are located at the Narasinghpur hamlet of Mohunda village of Ganjam District,about 20 kms. from Berhampur, a major commercial centre of south Orissa. Among the original groups of YSMD volunteers, the two who have been instrumental in launching Gram Vikas are Joe Madiath and Anthya Madiath, a trained nurse. Other members of YSMD have launched organisations elsewhere.

Health was the entry point for Gram Vikas into the life of the Khond tribals of the Karandimals. Neglected by the government, living in isolated hamlets in the hills, they suffered from a number of diseases, the two most common being malaria and tuberculosis. During their rounds of the villages, the health workers, all women, used to draw out the tribal women and explain how the disease could be combated. For malaria they were asked to burn neem leaves and drive away the mosquitoes with the smoke. As for T.B., the health workers usually obtained drugs from the government dispensaries and distributed them among the tribals who were told to watch only for the symptoms. The seriously affected were accompanied to the Berhampur hospital.

Gradually, the health workers expanded their area of operation from 11 to 97 villages in the Karandimals, spread over the three blocks of Kukudakhandi, Digapehandi and Chikiti in Ganjam District. This was accomplished by training a woman from each tribal village in the basics of preventive care. They then worked under the guidance of Gram Vikas animators, who were middle class non-tribal women who were given training in the basics of nursing.

The other innovative scheme launched by Gram Vikas is the choice of a local young man to give primary education to the tribals. The boy is chosen and trained in the most effective method of instructing the Khonds on the world around them. To begin with, the school timings are flexible so that students can attend classes after having finished work. The subject is taught through the use of local resources, and examples are, as far as possible, chosen from the tribal environment. Compared to the health scheme, tribal education has been taken up relatively recently by Gram Vikas, but it is in tune with the latest techniques of educating the tribals that are being applied selectively elsewhere in the country.

Gram Vikas has accepted the government's plan aiming at the integrated development of the tribals. In keeping with it, Gram Vikas has sought to instruct them in improved methods of agriculture and animal husbandry. How successful it has been in these schemes, it is difficult to tell. But these activities, including the land alienation studies that it conducted to arouse the tribals' consciousness as to how they lost their land to outsiders, preceded its afforestation projects.

Gram Vikas Involvement in the Biomass Programmes

Though it may have begun thinking of taking to social forestry in 1983-84, the tribals, with the help of Gram Vikas, launched their first tree-planting project not more than a year ago. Unlike some other NGOs, like CROSS, Gram Vikas does not have its own nurseries to provide seedlings for the social forestry projects it undertakes. These have been launched on wastelands around tribal hamlets. Gram Vikas has 200 employees, most of them involved in the biogas programme. Those working at the Karandimals are engaged in motivating the State machinery at the local level to identify wastelands so that more such projects can be initiated. The National Wastelands Development Board has instructed the State to cooperate with the voluntary agencies in this matter. But the Gram Vikas workers say that it is very difficult to get the tehsildar and others to perform this function.

Of the four projects that have been taken up, the first to be launched was on 35 acres of common land on the side of a hill of Tamara village in the Kukudakhandi block of Ganjam district. The village population of 450 (70 families) spread over three hamlets. Cashew is the main species planted at a rate of 70 saplings per acre. The other trees include jackfruit, acacia, gambhari, or gambai (semolina Arborea), Sisua or Sisam (Dalbergia Sissoo), Chukundi or siris (cassia siamea).

Except for cashew saplings, which Gram Vikas got from its own nursery, all other saplings were obtained from the forest department. Apart from cashew trees, the others, planted on the periphery of the hill, are hardly noticeable.

The land is full of rocks, and the soil is red, wherever it can be found. Water is provided only to the jackfruit trees since it has to be carried in buckets or cans to a distance of several hundred yards from the single well. The other trees are expected to survive without any water. And from what is visible, they appear to be doing alright. The survival rate is 85% several months after planting. If a sapling survives for two-and-a-half months, the dangerous period is over.

The contrast with the adjoining hill, where trees are supposed to have been planted by the forest department, is quite plain. It appears to have mainly bushes interspersed with the occasional firewood or fruit sapling.

The trees on the 35-acre village common land are looked after by the villagers who are paid the stipulated minimum wage rate of Rs. 7.50 a day by the village forestry committee, which obtains its funds from Gram Vikas, which in turn, is funded by DRDA. Tribals working on forest land and elsewhere, who were getting about Rs. 6 a day, have now begun demanding the minimum wage from their respective employers, since they know that the minimum wage is Rs.7.50.

No eucalyptus or casuarina trees were planted on the village common land. Gram Vikas has already started its own nurseries so as not to depend on the Forest Department.

The second social forestry project at lower Harabani is 25 kms. away from the Gram Vikas headquarters, the last five kms. have to be only on foot. There are two plots of village common land, six acres and seven acres. They belong to the 14 khond tribal families settled in the region. In their plots, they have planted essentially cashew and mango trees, which are well spaced out on the advice of Gram Vikas animators. They attempted to grow tomatoes on a small patch but because of excessive application of fertilizers, the crop perished.*

The Tinnigheria project is 60 kms. from Gram Vikas, the last ten kms. of which have to be done on foot. The final few kms. involve a climb up the side of a hill to the hamlet where about 15 khond families reside. The common land allotted to them is a little distance away from where the tribals live, on the side of a rocky hill slope. The main crop is cashew; on the edge of the plot, acacia has been planted. The plot has not been particularly well tended as evidenced by the growth of bushes and weeds amidst the cashew trees rising a foot or two above the ground.

The fourth project, Sana Buruda is 20 kms. from Gram Vikas, an interior village requiring the visitor to leg it the last five kms. The five acres of cashew plantation here is much neater than that at Tinnigheria; at the periphery, acacia has been grown. Green gram is grown in between the cashew trees.

Compared to the social forestry projects launched by some Andhra NGOs, like BCT and CROSS, Gram Vikas is operating on very small plots of land. Apparently, the State government is rather niggardly over allotting the village common land. But, in the future, Gram Vikas intends to cover much larger plots of continuous land under social forestry. In Sana Buruda, for one, it has asked for 75 acres for social forestry from the government and in Tinnigheria, 30 acres.

ALTERNATIVE ENERGY

Biogas Plants

Gram Vikas' striking achievement is in the sphere of providing an alternative source of energy not only in the Korandimal area where it operates, but throughout the 13 districts of Orissa. It has set up more than 5000 individual plants since 1982 - a record figure, which no voluntary organisation has been able to match.

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* An extra fertiliser bag was left among the tree saplings; the tribals experimented with it on the tomato patch, expecting better results only to misfire. An almost similar experiment by Tinnigheria tribals flopped.

Gram Vikas has been fortunate in the support and encouragement it has received from the Orissa Renewable Energy Development Agency (OREDA) without which it could not have performed so well. OREDA, particularly its Deputy Director, C. V. Krishna, has been more than willing to provide Gram Vikas with the necessary funds to set up biogas plants. Financial resources alone, however, would not have done, had Gram Vikas lacked the trained men to install the plants. The technical capability has been acquired through AFPRO, New Delhi.

What is important is not merely the quantitative success in the number of plants, but also the group among whom they chose to work. The original design chosen was the Chinese type of Janata plant, for which they got the design from the Action Division of a research institution in Lucknow through the National Biogas Corporation. The originality of Gram Vikas consists not merely in getting a new design, but in choosing the type of group they want to work with. They have propagated the idea of biogas plants primarily among tribals. They had seen the effects of deforestation on the tribals. Because of industrial clear felling of large tracts of forests, the tribals have been impoverished and have been forced to destroy forests for sale as firewood since they have been deprived of their livelihood by industry (which looks at trees only as timber and raw material). Hence, Gram Vikas decided to work on biogas plants mainly in the tribal and forest intensive districts.

Initially, they concentrated on three districts: Sambalpur, Sundergarh and Mayurbhanj. They then went on to Kalahandi, Ganjam and Koraput. Until now they have built more than 5,000 individual biogas plants and the number is expected to go up to 6,000 by the end of 1986. Thus, they have built more than 80% of the bio-gas plants built in Orissa.

What is equally important is that they began from scratch, learnt the techniques and are imparting them to others. This is one of the factors that has enabled them to keep an open mind on the whole process. Secondly, while imparting these techniques to others and building the plants, they make sure of a package deal, which includes continuity, motivation, construction and maintenance. They trained the workers of the local area in such a way that the local persons are able to continue maintaining the plant when the Gram Vikas workers go away from there. Thus, they have trained an average of five masons in each block where they have worked and these masons are trained to train others. Thus, a chain reaction is set in motion. These new persons, who are trained, make sure that the plants are maintained. Its result is that out of the first 3,500 plants constructed, we are aware of only 17 plants that have been defective.

Thirdly, they combine it with research and try to bring down costs. Normally a biogas plant costs Rs. 2,500 per cubic metre. Gram Vikas has been able to construct a 3 cubic metre Janata model for about Rs. 6000 i.e., at Rs. 2000 per cubic metre. As mentioned earlier, now they are experimenting with BORDA of West Germany on the Deenbandhu model. They have already constructed ten of them, four in the Tamapar village and six in the Baniamare village, both of them in the Karandimal hills. These cost only Rs. 1,500 per cubic metre which means that a plant will be constructed at Rs. 4,500.

Another major achievement of Gram Vikas has been its community bio-gas plants. So far they have built 17 of them, as many as six in the Karandimal hills area where they are working. These plants are built in order to make

sure that tribals get light in the evening. For the time being, they are not using biogas for fuel because the major need of the tribals is a lighting arrangement in order to have adult education programmes. This is true particularly about women, who can have meetings only after their housework at night. These meetings were not possible, since they could not afford to buy kerosene oil and they had no other source of light. A community biogas plant thus became a necessity for the women who wanted to meet and discuss their problems.

For installing a family-size biogas plant on a turnkey basis, the government gives Rs. 300 to Gram Vikas. This sum does not meet its expenses. Impressed by Gram Vikas' performance, Beijing invited its executive director, Joe Madiath, the Chief Co-ordinator of the biogas programme, to China to have a look at its contribution to the biogas movement. Joe Madiath maintains that this sum may be alright for turnkey jobs in Gujarat and Maharashtra or Kerala and Punjab, where the infrastructure is developed, but it is far from adequate in Orissa, a backward State, where at least Rs. 700 is spent for installing a biogas plant. As such, it has been obtaining additional funds from the Canadian Hunger Foundation. This, coupled with 125 programmes for training biogas masons, is why Gram Vikas has been able to expand much faster than it expected.

In taking to the biogas programme, Gram Vikas is serving those who belong to the relatively well-off sections of the rural community. To own even a two cubic metre plant, the farmer has to have at least 4 animals which is beyond the means of nearly all tribals of the Karandimals, Gram Vikas" main area of operation. The community plants have not been as successful as expected. No more than six are reportedly functioning. The community biogas plant in Leuchapada hamlet (Kukadakhandi block, Ganjam district) of 13 families provides power to three street lamps (manufactured by Gas Crafters, Bombay) and cooking gas to every home. The plant was set up in October 1985 and began functioning in January 1986. Connections for cooking gas and light have been made available by Gram Vikas in every home, but so far, not a single tribal has purchased a cooking stove or a bulb to make use of the biogas. The plant also does not get enough biomass during certain months. Two community plants are in Teengarhiya and Chanabagada (Digapahandi block of Ganjam District), two more in Kantigada and Giniguda (Kukadakhandi block of Ganjam district), and one in Toda village.

Gram Vikas has recently stopped operating in all the districts as it once was, as the government (OREDA) finds that it is now in a position to meet the needs of some of the areas. Even in the districts in which it is installing plants, Gram Vikas does not meet the entire needs: Ganjam (100%), Phulbani (50%), Belangir (75%), Kalahandi (70%), Sambalpur (90%), Sundergarh (80%), Mayurbhanj (20%), Koraput (10-15%).

The cost of the materials for the plants is met by banks, who have been instructed to do so. In case the individual is well-off, he raises the money himself; others take a loan from the bank. Gram Vikas' role is to train the animators not only to construct the plant, but to secure the loans from the bank and contact the potential owners of plants. Now it has a team of such persons in nine out of 13 districts of Orissa.

Smokeless Chulhas

To reduce the firewood consumption of the tribals, Gram Vikas began promoting smokeless chulhas a year after the biogas plant programme was launched. It has installed 10,000 chulhas in seven districts; Ganjam, Koraput, Sambalpur, Sundargarh, Mayurbhanj and Cuttack.

To start with, as in the case of biogas plants Gram Vikas experimented with a whole range of chulhas; most were found unsuitable. These were redesigned to suit local conditions. The chulha is constructed to take into account the needs of each family and is thus unique.

The mould of each vessel can be adjusted because the chulha surface (stand) is made of mud, unlike that of others, which have a metal component and hence cost Rs. 45 to Rs. 50. The Gram Vikas designed chulhas are priced at Rs. 25 each. They are subsidised by OREDA. But, since the last few months, the beneficiary has to pay Rs. 5. Gram Vikas installs the chulhas and is reimbursed by OREDA.

The chulhas are installed by the village youth after they have received five to six months' training at Gram Vikas.* The youth in turn instruct others. Their job is to look after the chulhas in their village (the housewife is responsible for maintaining them). The overall charge of the chulhas rests with 45 trained personnel working for Gram Vikas.

The installation of chulas is important for Gram Vikas, not so much from the ecological as from the health aspect. Though the chulha is 30% more efficient**, and hence, requires that much less wood, Gram Vikas is more interested in the protection it affords to the housewife; the smoke from the chulhas that damaged her eyes and lungs is a thing of the past.

People and Environment

Briefly, Gram Vikas, like many other voluntary organisations in Orissa, has been able to combine the environmental issues of forests and energy as a rallying point for the tribals; have experimented on alternate forms of bio-gas plants in order to make them accessible to the poor, have found ways of extension as well as ongoing maintenance and follow-up; have been able to give technical training to ordinary villagers to maintain these plants and have made them successful. Through this they have saved several forests. It is difficult to know exactly how many forests are saved, but even if we were to count at the rate of one tree saved for each individual biogas plant per year, it would come to 3-1/2 hectares of thick natural forests or 5-8 hectares of present type of forests. In practice the saving of forests is much

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* From what I could see, the Yuvak Sangam of Tamana village had done so well out of implementing the smokeless chulha scheme, that out of the money it had made, it purchased a T.V. set for its community centre.

** This is as good as any in the field; in the laboratory the chulhas might show up to 50% efficiency.

higher because each plant probably saves much more fuelwood than one tree. From our studies in Orissa, we estimate that each plant saves about three trees per year. Besides, community organisation has also involved motivation to save trees and bio-gas plants are also presented as a part of this effort. Hence, the real saving is in the form of reducing the cutting of trees for fuelwood for sale. Above all, it is building up the tribal community for further progress.

This has been possible mainly because Gram Vikas has tried to involve the tribals in this work. At the village level, there is a committee of the Karandimal Gana Sanghatana (KGS), a decision-making body of the people. A number of villages grouped together select a regional representative to the board of the KGS, which is expected to coordinate the activities of the whole area. The members of the committee and the board of the KGS are not elected; elections, it is felt, will introduce competitive politics and its attendant evils to the tribal way of life. They are selected through the consensus process.

Gram Vikas maintains that after its arrival on the scene, exploitation of the tribals by outsiders has ceased. Usurpation of tribal property, mortgaging of their land to money lenders, middlemen and liquor merchants, and the prevalence of bonded labour are amongst them. The awareness that it has created amongst them which led to the formation of the KGS must have achieved this, though this is not always obvious to a visitor.

If it is true, then it is a real achievement because it is not easy to organise them. The literacy rate among the Karandimal Khonds is 3% and they seem to find it difficult, at times, to articulate even the basic day-to-day issues that affect them.

It is essential to keep this background in mind constantly while questioning them about their organisation, the Karandimal Gana Sanghatana and the village level committees. After much prompting, the visitor begins to learn what the KGS means to the tribals.*

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* At Tinnigheria, the tribal hamlet on the side of a hill, when persistently queried as to why he joined the Sanghatana, Pandav Malik, Tinnigheria's representative on the Sanghatana's regional council said, "I wanted to know the Sanghatana's rules and regulations so I became a member." It was much later during the course of the conversation that it became clear that the Sanghatana and the village committees, their own organisations, were responsible for securing them many benefits such as; (i) a well that they had been asking for over the years, (ii) the pattas to their land, (iii) better health facilities through their health worker selected by the village committee, (iv) a school teacher selected from amongst the hamlet's residents, (v) a community biogas plant agreed to by the village committee.

Gram Vikas has constantly tried to motivate the tribals' organisations (village committee and the KGS) to function as decision-making bodies, and in most cases they do. For example, when, Gram Vikas carried out the land alienation studies, the tribals became aware of how they had been duped. Those of them who got back their land have realised the importance of obtaining the maximum returns from it. With the village committee's

assistance and wherever necessary, of the KGS, they have secured loans to cultivate them; others have begun to plant trees. Village Committees, in relation to their common land, have decided what trees to plant. They are keen on this exercise also because they get higher wages than through working in other people's fields.

To take another example: Gram Vikas demonstrates the viability of a community biogas plant. The villagers of Toda are convinced of the benefits they can derive from it. The committee decides to provide free labour to set it up. Over the next few days, the residents of Toda lug cement, bricks and steel sheets (for the dome) up the steep hill where their houses are located. And under the supervision of the Gram Vikas team, they construct the plant. The decision to acquire the community unit has been entirely theirs.

Women's Participation

Another important factor is women's participation. Most work of the village is handled by women. Even in agricultural and forestry operations, they take the lead. Apart from taking care of the home and the children, the tribal women look after the milch animals, collect firewood and forest produce. Little wonder that in social forestry, a relatively recent activity, the women are taking a lead. In Tamana village, a separate ten acre plot has been set aside exclusively for women. In Tinnigheria, of the new 30-acres plot that will be taken up for planting, ten acres are reserved for women. Where ever social forestry is contemplated, plots are being earmarked exclusively for them.

Women came to the forefront in the village when they began to take care of the common ailments that afflicted the members of the community, under the guidance of Gram Vikas health workers. From 1977 to 1982 Gram Vikas paid them Rs. 15 per month and then decided that the cost should be borne by the community, but it is not willing to pay the health workers. Nevertheless, these 40 workers continue to work without remuneration, tackling malaria, scabies, coughs, fevers, injuries, and sore eyes. Gram Vikas provides them with the common medicine.

Since the late 1970s, the women have occasionally played an aggressive role. When the new housing colony was set up by Gram Vikas for the tribals in Bikaspur, the tribals applied for a tubewell, which would provide drinking water and meet their domestic requirements. In the last two years the tribals had gone to the BDO at least 20 times, still nothing was done. Then the women decided to take up the matter, and sat down in front of the BDO's office until he promised that he would take up the issue. Bikaspur now has a tubewell.*

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* Similar cases are to be found among the Scheduled Caste women motivated by BCT and CROSS in their areas of operation in Andhra Pradesh.

Possibilities of Replication

The above examples indicate that the tribals are capable of making their own decisions. If this is indeed the case, then there should be no difficulty in their repeating any scheme, be it those related to social forestry or anything else. But because of the isolation of the tribals, they will continue to be dependent on Gram Vikas.

The other question is whether other organisations can achieve what Gram Vikas has done. As for the mobilisation part of it, many other organisations in Orissa, Chattisgarh, and elsewhere have been at least as successful as Gram Vikas. But the same cannot be said about the material achievements. In its bio-gas, social forestry and related programme, it has achieved much more than most other groups in Orissa. With its budget of Rs. 40 lakhs and nearly 200 workers, it has an infrastructure comparable to that of CROSS in Andhra and BAIF in Maharashtra. Hardly any organisation in Orissa can be compared with it.

Public and semi-autonomous organisations like OREDA, PADI and the Wastelands Development Board seem to depend on the infrastructure that already exists. As a result, such work can be achieved only by those who already have an infrastructure of this type.

AFFORESTATION FOR INCOME GENERATION
JAGARANA OF GUDARI

Jagarana evolved out of the flood relief programme undertaken by the OXFAM India Trust, after the unprecedented inundation of October 1980. It is an organisation of some young Sabara tribals and some other non-tribal Oriya youth committed to the self-development of the tribals of the Koraput district in Orissa. Its aim is to make the tribals conscious economically, socially and politically. They try to organise the tribals under village committees that will work as platforms for them to analyse their problems. They encourage the people to get educated, help with the organisation of a common fund and a grain storage at the village level, and establish close rapport with the government officials to make the benefits of development accessible to the tribals. Jagarana was born in 1981 at Gudari, Koraput district, Orissa. It has concentrated entirely on helping the tribals of 32 villages of Gudari taluka and is planning to expand to two more blocks.

Organisation of village committees: These committees are formed with more than 60% of the families represented in each village. They sit together to discuss their individual and common problems and action to be taken by them for their own development. Jagarana facilitates this discussion and decision-making process and the implementation of the decisions taken. Thus, the committees play a vital role in their development process. About 100 such committees have already been formed, out of which 30 are active. By active committees, one means those that have maintained unity in the village, encouraged concern for each other, initiated collective economic activities for the common good, helped the villagers to solve their disputes and problems by themselves, have enhanced consciousness of their exploitation and have

planned better for their future. The work of the committees is managed by a selected body having its own president and secretary. All the beneficiaries are members of the committee.

In many places, the villages have their area level committees in which five or ten surrounding villages come together for discussion or the common problems of the area. In these meetings they discuss mainly issues like minimum wages and raising a common fund, repayment and utilisation of common funds, the drought situation and the people's role, employment, lack of unity among the tribals, agriculture and food requirements, modes of getting government assistance and work from the block, marketing of their produce, land demarcation and development. Representatives of village and area committees come together for discussion of the above issues also, at the block level.

Besides the village, area and block level meetings on general development and awareness building, seminars and camps are run occasionally on particular issues like social forestry, environmental problems, plantation of fruit bearing trees, health and sanitation, and other immediate problems.

Since women play a definite role in the family and society, if they do not organise themselves separately, it would be difficult to maximise their contribution to development; for in the tribal areas, women take more responsibilities in family income generation and also take the main part in household management.

About 15 women's groups have been organised in this block. They sit together once or twice a month to discuss problems such as health and nutrition, the drinking habit of men and women and its implications, marriage and divorce, child care and education, the role of women in the tribal economy and their exploitation. In action, some groups try to look after their family, village cleanliness, and vegetable cultivation. About 11 groups have started raising common funds to help individuals for petty trading and other economic activities.

Jagarana also conducts training programmes for village youth in leadership and organisation. In these training programmes, they are taught co-operation, management, accounts, agriculture, and marketing. They have also taken up economic programmes such as land development in 22 villages, agricultural assistance (credit and technical guidance) in 20 villages, small irrigation programmes in three villages, grain storage and marketing in 17 villages, vegetable cultivation in 24 villages, individual savings in 16 villages and common funds in 45 villages.

They have also collaborated with government programmes such as construction of village roads, school buildings and small irrigation projects (in nine villages), I.R.D./I.T.D.A and E.R.R.P. programmes i.e., helping in the selection of beneficiaries and supervision for proper utilisation of government grants and loans (in 30 villages), rehabilitation of bonded labourers (in five villages) and securing old age pension (for 15 persons). They have succeeded in motivating plantation of fruit bearing trees in 17 villages and have given legal aid to nine persons.

Involvement in Biomass Programmes

Jagarana started promoting farm forestry on the plots of tribals in 1985. This is its latest project. Between 1981 and 1985 it has been tackling a number of issues to enable the tribals to acquire a higher standard of living. It does not appear to have a clear set of priorities for helping the tribals. Rather, whatever problems they draw its attention to, Jagarana tackles them as best it can, as we have seen in the achievements just listed above. They have begun to actively take up the cause of the tribals. For five villages they have secured contracts from the government to build schools. Previously, these contracts used to go to outsiders who made money and did a shoddy job, and used the tribals only as daily wage earners and unskilled workers. The committees have also secured the contract for the construction of the village road which leads to Chitisharma. In another case, when a road was sanctioned to Sauraguda village by the block authorities, this job, as usual, was assigned to a contractor. The tribals opposed the contract as they wanted to take up the work themselves through the village committees. But the Panchayat Samithi Chairman was in favour of the contractor. As such, the tribals could not prevent the job going to the contractor. But they pressured him to employ the tribals of the village to construct the road. Through the wages paid to them, the committee calculated that Rs. 6,000 had been spent by him, whereas he had been sanctioned Rs. 10,000. They made him undertake road drainage work with the remaining amount of funds.

The committees have also been able to prevent the installation of lift irrigation points, meant for the community, on the land belonging to landlords and Sahukars. They have succeeded in this regard at Barajguda, Gajuguda and Bentaguda. The other major function they perform is to set up common funds which are used to provide benefits to the community. The funds also advance loans to individuals ranging from Rs. 10 to Rs. 100 a year.

On its part, Jagarana, through the committees, has focused on reclaiming land with the objective of (i) preventing soil erosion, (ii) making the land better for paddy cultivation, (iii) providing employment during the lean season, (iv) raising the common fund and individual savings. The money granted by Jagarana to the committees, which selected the 48 beneficiaries, has helped reclaim 48 acres of wasteland in 15 villages.

To raise agricultural productivity, Jagarana has persuaded banks to advance loans. Last year, the Gudari branch of the State Bank of India loaned Rs. 13,000 to 18 beneficiaries for purchasing agricultural equipment as well as inputs. A year before that, the branch of the Indian Overseas Bank in Ramanguda taluka extended Rs. 15,000 to 13 farmers. The loan has been repaid. However, bank loans are given only to those who have land pattas, whereas Jagarana and the common fund extend loans even to those who cannot provide collateral i.e., to the poorest of the poor.

Jagarana is particularly keen that each village organises grain stores, so that they do not enter into distress sales of the bajra and paddy that they grow on their fields. Many have set up the stores with the money made available partly through the village fund and partly through Jagarana. Now the tribals can sell the grain when the market price is the highest and not as soon as it has been harvested.

Jagarana has been encouraging the tribals to take up vegetable cultivation on unused plots and on land that is not suitable for the Kharif and rabi crops. It then supplies the seeds. Vegetables are now being cultivated by 221 families spread over ten villages.

The wide range of activities of Jagarana may tend to mislead. Like NIPDIT and PIPAR, it is a small organisation with a handful of workers - eight to be precise. It has essentially depended on two funding agencies: OXFAM and Swissaid. Since 1982 OXFAM has donated Rs. 6,90,000 for organising (i) Seminars and Village Committee meetings, (ii) land reclamation work, (iii) agricultural assistance, (iv) grain stores and (v) administrative expenditure. Swissaid had donated Rs. 3,65,000 since 1983 for (i) setting up the training centre at Gudari, (ii) training animators, (iii) land reclamation and (iv) irrigation tanks.

The Nature of the Project

One can see, then, that Jagarana concentrates primarily on income generating programmes. Also, the plantation schemes are viewed primarily from this point of view. In other words, afforestation is one of its many concerns. It has from the beginning encouraged the people to plant fruit bearing trees on their own land and has been supplying to them good quality seedlings for this purpose.

Farm Forestry: Jagarana took up farm forestry in late 1985 as one of the components of tribal welfare. So far 17 villages have taken up plantation programmes. It is encouraging farmers to plant essentially fruit trees such as coconut, mango, banana on their plots. They have convinced the tribals that these will provide a permanent source of income to them. The village committees are asking the tribals to take to this programme. Jagarana plans to introduce fruit trees on the plots of farmers living in 25 villages. It has surveyed the land of 433 families. The committees have submitted their requirement for saplings to the Integrated Tribal Development Agency in Gunupur.

Social Forestry: Jagarana has, until now, not promoted social forestry. But since the government has been lately promoting it, providing funds and land to the NGOs, it has decided to go in for it. Now it feels that it is organisationally in a better position to campaign for social forestry than many other organisations. Apparently, all the tribal villages where Jagarana is working are interested in this programme. It has, therefore, contacted the tehsildar to demarcate village common land where trees can be planted; the forest department has been asked to supply seedlings to cover 40 acres, spread over 18 villages.

Apart from the village common land, Jagarana had identified 150 acres of government land spread over 15 villages of Gudari block - about ten acres in each village. It has written to the government to permit it to lease the land to enable it to initiate social forestry work. On their persuasion, two villages, Balliguda and Dimiriguda, have taken up village Orchard Schemes through the Gudari Block Office.

Despite Jagarana's claims about the tribals' interest in planting trees, many do not appear to be particularly concerned about the destruction of forests on nearby hills, which show clear patches where podu (shifting) cultivation is being practised. Chakrapani Sabara of Shilimi village, inhabited by 47 Sabara families, in fact, argues that for many of them podu cultivation is more important than forests whose benefits do not appear apparent to him.

However, shifting cultivation (podu) has to be viewed in its proper perspective. Traditionally it did not cause deforestation because the tribals observed 20-25 year cycles. Many studies have shown that when a cycle of 15 to 20 years is kept, this is a very good way of forest regeneration and of maintaining soil fertility. Besides, it is a nutritionally healthy practice because it makes provision for the cultivation of a great variety of cereals and pulses that give the tribals a balanced diet.

But today, it has become a destructive practice because deforestation by commercial-industrial interests and the consequent impoverishment of the tribals has increased their dependence on podu, and has reduced the cycle to five to six years. Though today it causes deforestation, the tribals are forced to depend on it. Groups like NIPDIT have succeeded in weaning the tribals away from podu through environmental training programmes and by providing them with economic alternatives. We would think that Jagarana, which has a fairly good organisational base, has the capacity to provide such an alternative as a way of helping the tribals to become self-sufficient, and not primarily as a way of saving forests as the urban middle class would want them to.

Alternative Energy

Biogas plants: Jagarana has taken up work on seven biogas plants in the Dhepaguda area of Gudari block. Orissa Renewable Energy Development Agency (OREDA) has sanctioned the money, but the work has yet to start. The tribals who have asked for the plants are better off than some members of even the higher castes in the region, owning between two to five acres of land and about ten to 25 animals each. Jagarana is in the process of identifying more well off tribals who can afford biogas plants.*

There has been a request for two community biogas plants as well but Jagarana has not requested OREDA for them yet. It first wants to see how the individual plants work.

Smokeless Chulhas: Jagarana has contacted OREDA to help it install chulhas. It has said that it would be sending samples for experiment. That is where the project stands. Apparently, OREDA, flooded with applications, is unable to meet the demand for chulhas.

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* Unlike NIPDIT, Jagarana does not appear to be worried by the fact that biogas plants benefit only a minority and hence, spending time on making these available detracts from the NGO's efforts in other directions to help the majority of the poor tribals.

Decision-making Process

It is important to stress that a democratic decision-making process is essential if the values of the scheme are to be internalised. Otherwise, only economic schemes may be implemented and only a few may get their benefits. Jagarana has made a beginning in the democratic process. The village committees have made the tribals come together to discuss their common problems and this has led to a democratic decision-making process.* These meetings ought to have created a cohesiveness among the tribals. And as we have seen at the village level, it has done so. Had it not been for the unity among them, the village committees would not have secured contracts to build schools and roads, nor could the tribals have prevented the setting up of lift irrigation works meant for the community, on land belonging to the dominant landlords of the area.**

The committees have made these gains because they have been able to make the tribals conscious that fighting for the rights of the community would benefit all of them. This has made them take interest in community affairs, whereas previously they were essentially conscious of their problems in isolation.

Jagarana supports the committees by training their leaders after they are selected by the villagers. These training camps are of two types: three-day camps for village adults and ten-day camps for the village youth.*** As a consequence of these camps and the activities of the committees, the tribals have become aware of their political clout. In the last Panchayat elections, the Jagarana contact villages elected 19 of their own candidates as ward members, and four of the Sarpanches were tribal candidates backed by the village committees.

Possibilities of Replication

The village committees are people's organisations which have demonstrated that they can handle issues on behalf of the tribals and implement projects. However, they do not seem to be particularly aware of the importance of

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* This point need not be stressed, however, for like the Khond tribals of Gram Vikas, the Sabaras of Jagarana are not particularly vocal and hence, it is difficult to assess how much impact the education and conscientisation programmes have had on them. NIPDIT's tribals, however, stand out in contrast to them.

** Chakrapani Sabara and others of Shalini village said that the village committee set up two years ago has brought about unity amongst them, and this has enabled them to deal with the exploiters. The village committees, they observe, were set up as a result of the education/conscientisation efforts of Jagarana. On hearing about the success of these committees, the tribals of Shilim approached it to guide them in organising one of their own.

*** The other camps are for (i) health training, (ii) managerial skills (which includes training in simple accounting and the maintenance of records of economic activities of the village), (iii) training in skills for earning subsidiary income.

trees. As such, farm forestry or social forestry schemes are not likely to be a success unless Jagarana put in much greater efforts to educate them on the need for afforestation. What is more, Jagarana itself may not have enough time or clarity in perspective to devote to this issue, considering its limited staff and the number of its concerns. Perhaps this explains why it is not seriously committed to promoting trees as a means of helping the tribals. But if farm and social forestry projects are to succeed, the tribals will need the guidance of Jagarana. On their own, they will not be able to get them going, let alone replicating them.

In this context, much more attention than now will have to be paid to the role of women. We have noticed that when they are active they are capable of taking up many issues and pursuing them successfully. Unless women view afforestation not merely as one more economic scheme, but as the regeneration of their life system, it cannot re-establish the symbiotic relationship that links the tribals to the forest.

ENERGY SAVING DEVICES AND THE GROWTH OF THE COMMUNITY JNANA JYOTHI, ANEKAL

When Jnana Jyothi was started in 1978, by the Karnataka Jesuit province, its primary objective was the integrated development of the area and of the community. Prior to 1978, they had attempted various developmental activities such as digging wells and food for work which they assumed would result in the betterment of the people. Later it was realised that these programmes served only the slightly better off section of the population and not the poorest. Hence, they decided on a new educational approach. In 1978, the Government of Karnataka funded Jnana Jyothi for setting and running adult education centres under the National Adult Education Programme (NAEP). Jnana Jyothi still runs 30 of them, since during the first years of operation of NAEP the turnout was encouraging. This programme also enabled them to contact several villages in the area and establish good rapport with the people.

Once NAEP was discontinued, Jnana Jyothi began balwadis for the non-school going children below the age of six. This programme, aimed at inculcating the school-going habit among the children and improving their nutrition, is mostly run by a local animator. In this process, they were able to mobilise 15 animators from 15 different villages, establish rapport with men and women in the area, discuss their problems and events and lay the foundation of their organisation. They also conducted leadership training and awareness programmes during 1984-85 to sustain this interest.

In 1984-85, the Government once again allocated funds to Jnana Jyothi to run 30 NAEP centres and for 30 more centres in 1985-86, and to continue 20 centres of 1984-85. In the course of these years, the agency had opened two dispensaries used as bases for health education and to bring people together. Consequently, when in 1984 ASTRA, based at the Indian Institute of Science (IIS), Bangalore developed a new energy saving chulha (stove) which it called Astra-ole, Jnana Jyothi was used as their first training centres, since it already had a base of people's organisation.

Brief Description of the Area

Anekal, 35 kms. to the south-west of Bangalore, is the headquarters of one of the 12 talukas of Bangalore district. Its total population is 165,540 viz 146,273 or 88.36% rural and 11.64% urban. Literacy was 36.77% in 1981.

The taluka has a total geographical area of 53,518 hectares (35.18 sq. kms.) of which only 463 hectares are covered by forests (0.865% of the total geographical area). The net sown area is 26,776 hectares but only 5,442 hectares are irrigated. The average rainfall of the area is about 804 mm; but rainfall has failed several times in the past, leading to drought conditions. In 1983 there were 57,418 cattle, 10,204 buffaloes, 23,412 sheep, 7,674 goats and 126,984 poultry birds in the area.

With very little forest for the people, there is great scarcity of firewood and biomass in general. Most of the fuel needs of Anekal town and the neighbouring areas are met by head-loaders from far off villages. At the taluka borders on Tamil Nadu, where more forest produce is available, women from the taluka walk up to the forest area there to cut and bring fuel for domestic consumption. Many others make a living by cutting and selling firewood. The entire family walks a minimum of 15 kms. each way to earn around Rs. 10 a day.

Origin of the Energy-Saving Device

The discussion in the NAEP classes and elsewhere had made the people aware of the destructive capacity of the present firewood based economy and the fuel crisis. Jnana Jyothi was looking for ways to solve this fuelwood crisis in the area. On the other hand, ASTRA had developed Astra-ole which had undergone laboratory tests along with some pilot projects. After successful completion of these tests they were able to assert that the Astra-Ole would save around 50% in fuel consumption. Besides, unlike the conventional firewood stove, Astra-Ole has three openings. It is lit in only one such opening and the fire travels to other openings via a route built in the ole. Air from the atmosphere blows the fire continuously. Thus, women do not have to blow the fire any more. Besides this, air prevents the smoke from gathering around the stove, and pushes it out through the long cylindrical pipe. Thus, apart from economising on fuel, Astra-Ole also removes the health hazards of the traditional stove, since the housewife does not have to blow the fire continuously and the smoke does not gather in the kitchen.

Convinced of the potential of the new stove, ASTRA was looking for an area where they could demonstrate its energy saving capacity effectively. To facilitate this process, they published the scientific data in simple language which a common person could understand. In their search for organisations with a base among the people, they came in contact with Jnana Jyothi, the first voluntary organisation to experiment with the training programme in their project area. The very first training programme, which was sponsored by the Government of Karnataka, had 25 prospective builders from various parts of Karnataka. They were stimulated to return to their area and put up this type of stove for the people. As part of the training programme they were to build a model stove at the camp and at least three more in various houses in the villages.

Though the fuel crisis, as well as the alternative of Astra-Ole, were discussed in the NAEP classes and other meetings, the initial response was poor, since the people had not yet seen it in action. Besides, the high cost of Rs. 100 was another negative factor. That is where demonstration helped them to realise the quantity of wood saved by Astra-Ole, and slowly people came forward to have it built in their houses. Though Rs. 100 was a big initial investment for a stove which they traditionally built without any financial outlay, its savings in terms of fuelwood, along with the absence of smoke, encouraged the people to invest in it in their houses.

That the people have accepted the Astra-Ole is evident from the 100% survival rate of the 400 stoves Jnana Jyothi has constructed in the Anekal area. All of them are working effectively and efficiently. At present the persons trained by them are unable to cope with the demand and 800 stoves are waiting to be constructed.

The success of the Astra-Ole has also impressed the Government of Karnataka. It has now come forward to set them up at the block level all over the State. They have one or two of the trained builders in every block. Besides, for the Scheduled Castes and Tribes, the Government finances the full amount to build the stove. Thus it is expected to become successful in the whole State.

Various Phases of Involvement

It should be clear by now that the first phase was essentially a joint enterprise of the scientists of ASTRA and Jnana Jyothi. The members of ASTRA from the Indian Institute of Science (IIS) came to help them out. Both men and money were supplied by IIS, while Jnana Jyothi did the organisational part of the programme. The trainees came from various parts of Karnataka. Though Jnana Jyothi had a base in the area, the people's involvement in the programme was gradual. Initially, only the trainees were actively involved in it. Each of them was expected to build two stoves free of charge. In all, 60 chulhas were built in 22 villages under this programme. The message thus spread to the people, who became active.

As mentioned earlier, initially the people were apprehensive about the programme and motivation was difficult, though all of them were experiencing the fuel crisis. As they began to see its advantages, they came forward to get the chulhas built in their houses. This was the second phase and Jnana Jyothi used its infrastructure of NAEP centres, balwadis and dispensaries to motivate the people. Many responded, though at this phase, the contribution of the people was much higher than earlier. In the first phase, the people supplied only mud, bricks, husk and sand. In the second phase, they also had to pay for the pipe, grate, cover and bars, and the remuneration for the builder. Thus they had to incur an expense of Rs. 70 to Rs. 100. Yet, many people have come forward to get this done.

One factor that helped in this process was the link between Jnana Jyoti, which has a fairly good infrastructure, and ASTRA, which had technical knowledge. The scientists were prepared to bring their knowledge to the popular level. This popularisation was essential because the organisation itself did not have any technical expertise and initially, it needed to get acquainted with the very concept of Astra-Ole. This was not easy because the

efforts to contact the scientists at IIS, and later, to get the government to sponsor the programme, were time consuming. That is where the credibility and the contacts of their parent organisation, the Jesuits, were of use. These links, as well as the advantages of the new stove as a contact point with the people for further development, kept them motivated to work for it. Later, having learnt the techniques from the scientists, Jnana Jyothi took up the responsibility of transferring the technology to the people and of helping them to adapt it to their needs. They also had to continuously monitor the acceptors to prevent any failure due to bad maintenance and the discouragement that would follow. For this to be possible, they had to keep providing the people information about government aid, the availability of the builders, and new techniques.

Another factor that helped was the acceptance of the scheme by the Block Development Officer (BDO) who sanctioned 200 Astra-Oles for the taluka. The BDO provided material aid, the motivation for the people to take up chulhas was done by some of the trainees in the area, and the balwadi teachers in various villages with whom Jnana Jyothi worked. The BDO took up building chulhas for all the people sponsored by Jnana Jyothi. In this programme, the people were expected to deposit Rs. 75 for the pipe, grate, cover, ash-exit and iron bars and to supply other material like bricks, mud, husk and sand. The person who constructed was paid Rs. 20 per chulha. If the chulhas were efficiently maintained, the BDO office would return Rs. 50 as a subsidy for the SC/ST acceptors.

Then began the third phase, when the people and the BDO's office would be in direct contact since the former had learnt not merely the techniques of building a chulha, but also of dealing with the BDO. The interest that was shown by Jnana Jyothi was picked up by the BDO and the Mukhya Sevika, who has taken a keen interest in propagating the chulha. Now the people deal directly with the Mukhya Sevika to get the allotment of these chulhas, since she has become very enthusiastic about the programme. The personnel of Jnana Jyothi continue to support the people in this scheme but most of the work is done by the people themselves. The NAEP animators and the balwadis' teachers continue to keep the people informed of various government schemes and motivate them to avail themselves of these benefits. But they encourage the people to come in direct contact with the BDO and get these benefits as a right, because to Jnana Jyothi the chulha is one more mode of the people becoming self-reliant.

The Impact of the Programme

Today, almost all the chulha owners are very happy; they have found that these chulhas save a lot of time, their vessels are not black and there is no smoke in the house. Women are relieved of the trouble of maintaining the fire and suffering from the choking smoke. This chulha is also safe for children, as they cannot reach the fire.

Having seen the efforts of Astra-Ole, many people have come forward to erect them in their houses; the BDO has taken keen interest and the Mukhya Sevika has done a lot of work in this regard. This has reduced the time spent by women in collecting firewood and in cooking. Given that Anekal has only 0.8% of the forest, this meagre forest is also preserved.

As far as Jnana Jyothi is concerned, Astra-ole is only one step in the direction of people's self-reliance and organisation, which is real development. They have been, at least, partially sucessful. Through this programme, the organisation has come into closer contact with the people and is in touch with many villages. Moreover, the spread effect, which is another essential condition for development, is being achieved. Because of the chulha and the contact, many more new villages have approached the organisation to start other programmes, like adult education. A third important condition for self-reliance is demonopolisation of knowledge. Indications are that this too is being achieved. IIS put scientific knowledge in a popular form at the disposal of the organisation and the people. The Jnana Jyothi personnel, who are themselves non-technical persons have been able to absorb this knowledge and help with the training of others. This has created in the trainees the type of interest needed to pass the knowledge on to other people.

Conclusion

The first factor that stands out in this programme is the infrastructure of Jnana Jyothi, which helped them to come in contact with ASTRA and later, with the BDO. Even ASTRA, which is committed to popular science, needed these types of contacts and infrastructure much more so then the scheme of the government.

Any programme seems to start primarily with the development group getting involved and evincing keen interest in it. But interest alone does not seem to suffice. Hence, one wonders whether others without a similar infrastructure and contacts can achieve the same result.

Secondly, the success of the programme seems to lie in the careful attention paid to every detail of the work, like building the ole accurately, and the monitoring process, which involves being at the disposal of those in difficulty and continuously giving advice and being helpful to the people. This requires a great amount of training and motivation of the animators to be at the disposal of the people.

Thirdly, even if the government programmes are available, a lot of motivation work has to be done for the people to benefit from them. This motivation is not merely in giving them knowledge of the programme but also in helping them to acquire the confidence needed to deal with the government officials and to view these schemes as a right, not a favour bestowed on them. Without this type of motivation, no programmes can really reach the people who need them.

One more important aspect of development is that individual programmes have to be seen in their totality and have to be linked with one another. Jnana Jyothi certainly looks at development as total growth and self-reliance of the people. But they do not seem to see clear links between individual programmes. Coming to the energy saving project, while Jnana Jyothi has taken up the construction of the astra-ole with the intention of saving the forest, it seems to do very little in the direction of creating an atmosphere required for planting new forests, or even to preserve existing ones. Efforts are made in the balwadis to plant trees and introduce awareness among children and women about the need of trees. But, at most, this effort can be considered

marginal and is not viewed as a part of the totality. Briefly, one can see that energy saving programmes and afforestation have the potential for the development of the people and for environmental regeneration. Jnana Jyothi has the infrastructure but requires greater clarity on the role of each scheme.

FUELWOOD FARMING AND INCOME GENERATION
NATIONAL INSTITUTE OF RURAL INTEGRATED DEVELOPMENT

Sixty-four-year-old Pinaken Patel is the driving force behind the National Institute of Rural Integrated Development (NIRID) which he set up in 1978. He participated in the Quit India Movement after which he has been involved in the trade union and cooperative movements in Bombay and the Bihar coal mines. Between 1955 and 1965 Patel sold handlooms and handicrafts through cooperatives. Since then he has been director of Packaging Machinery (P) Ltd in Umbergam (Gujarat). Patel as managing trustee of NIRID has two trustees to assist him. Arun Chhotalal Chhatrapati, and Prof. V.B. Chitre. The Institute is located at Juhu Tara Road, Bombay.

The trustees of NIRID felt a serious concern towards the ecological imbalance caused by the rapid felling of trees. They realised that during the last 50 years, nearly 100 million acres have been stripped of forest cover, cultivated for a few years and then abandoned. Most of this soil was not even fertile enough to sustain continuous agriculture. Forest land thus left barren is at the mercy of wind and rain. They also realised the misery caused by enormous amounts of silt from the catchment areas. The declining fertility of land thus increasing deserts, with human beings and cattle abandoning the land. The forest dwelling tribals survived on the collection and the sale of forest produce. They rarely cut trees except for their personal needs of fuel and housing. But with the exploitation of forests for commercial use by outsiders the only way they can survive is by collecting firewood for sale. They collect it from the diminishing forest and sometimes walk 20-25 kms. every day to sell it.

In this context their major concern was for the tribals, who according to them were the worst hit due to the rapid deforestation and any solution to this problem should necessarily include them. Secondly, no such programme can eradicate the misery of our country, keeping in mind the magnitude of the problem, unless it is a people's movement. Therefore, they came to the tribal region of Palghar in Thane district with the following objectives in mind:

a) To raise the tribal poor above the poverty line through income generation from waste and degraded lands and by creating more employment.

b) to bring pride and purpose back into their lives and

c) to truly integrate them into the mainstream of national life with more bargaining power.

With the above objectives, NIRID works to improve the utilisation of waste and degraded lands owned by the marginal and small tribal farmers by planting fast growing trees for fuel, fodder, household needs and cottage industries (bamboo) and improving feeding and breeding of goats (poor man's cow).

Various Projects

NIRID's first project was at Bapugaon, 25 kms. east of Dahanu, in Thane district. On land leased from the Khadi and Village Industries Association it tried to demonstrate that tribals could raise the productivity of their main crop, rice, by improved and timely farming operations. It increased the yield of the demonstration farm to 25 quintals an acre against the local average of 15 quintals.

In 1980, NIRID leased six acres of land with a well on it, at Veoor, near Palghar railway station, in Thane district. It started a coconut nursery here and on an experimental basis, introduced a crop of ground nuts. For the first time it put up a nursery of quick growing tree species: casuarina, subabul and bamboo.

A year later, at Palipada, a settlement of Fudgi tribals 15 kms. to the east of Kelwa Road railway station, in Than district, it launched its first plantation of 5,000 trees, obtaining as many as 3,000 seedlings without cost from the local forest officer. But it had to be abandoned, as the landlord sold the land shortly afterwards to a housing society. This was only the beginning of the agency's involvement in social forestry and energy saving projects in several tribal areas. They have got involved in projects at Haloli, Dublan, Tembhode and elsewhere.

A. Social & Farm Forestry

NIRID's main concern is the fuelwood crisis that has overtaken the country. Women have to walk miles every day to collect fuel for their domestic needs. The scarcity of fuelwood in the area is evident from the fact that the bride brings a truckload/bullock cart of it as dowry. Hence, NIRID has decided that it would be good enough to concentrate on this need, and unlike other NGOs who have gone in for mixed plantations of fruit, fodder and fuelwood trees, it has concentrated essentially on fuelwood. This is evident from its various projects which are small, rarely more than ten acres, largely because the Maharashtra Government has been niggardly about leasing land. But the situation has changed, for its order of April 1985 releases forest land for social forestry to villages which are willing to take it. NIRID has already drawn up a five year project to plant 37,50,000 trees on 1,500 hectares of forest land in 12 villages, Haloli, Durvesh, Savarkhind, Bhopoli, Kondhan, Borande, Duktan, Sheltepada, Nanivali, Mahagaon, Katealgaon and Bhadole of Palghar taluka, Thane district, which will benefit 750 tribals, mostly landless.

If enforced, this government order will give a massive boost to the afforestation of wastelands. For one of the major problems facing NGOs keen on promoting this activity is leasing wastelands, most of which are with one or the other department of the Government, essentially forest and revenue. It is important for these departments to lease these lands to NGOs if they are serious about wasteland development. NGO's afforestation projects are likely to succeed depending on their organisational structure and the level of people's participation they has been able to generate. Even if it has one of these as its strong point, and that is usually the organisational structure, it can make a go of its afforestation project.

NIRID has concentrated solely on afforestation. Its experience with the forest and other departments has been good, but this is not the case with most other NGOs.

1) Haloli Project: NIRID held a meeting of the headmen of the villages in Phalgar. Of the 140 villages in the taluka, 80 sarpanches came to it. During the meeting NIRID highlighted its programme to help farmers to plant fuelwood trees on their land, or non-village common land, wherever available. The sarpanches spread the word.

From Haloli, 80 kms. from Bombay, Balkrishna Jhadav approached NIRID with the request that it help him to plant trees on his four acre plot which yielded little or no returns. Since he felt that he would be unable to tend all the trees (1,000 per acre) he had entered into an agreement, rather a unique one at that, with three landless labourers to tend the trees. Like him, the labourers also belong to the Malhar Kohli tribe. Under it, the income from the land would be divided into five parts; two parts would go to the landowner and one part each to the three landless labourers.

The four acre plot, which is half a kilometre away from the highway, presents an impressive sight. Since July 1984, scores of subabul trees have begun reaching for the sky and that too after only two monsoons. Some trees are 20 feet high with a girth of 2.5 inches. Most trees are 15 to 18 feet high. The survival rate is 90%. Where the subabul has perished, it has been replaced by acacia* and eucalyptus. In other NIRID assisted plantations, the survival rate of subabul has been 70%.

The success at Haloli is remarkable, for this is the first tree plantation attempt to succeed in Palghar taluka. Tribals have rarely cared to plant trees; in this case they have not only done so, but have looked after them. Until now they did not need to because they had kept a balance between human and ecological needs. Industrial clear felling has destroyed this balance.

Apart from motivating the tribals, NIRID has made saplings available to them. Under the National Rural Employment Programme, the Centre makes funds available to the State Government, which passes these on to the District Rural Development Agency, which in turn hands them over to the Social Forestry Department. Until 1984, the Department gave 24 paise to NIRID for each sapling it supplied to the tribals from its nursery; it has been paying 80 paise per sapling to NIRID since 1984. Thus, it is able to reclaim the cost of these from the government. But if the afforestation project is to succeed on a big scale, i.e., on the barren hills around the villages, NIRID maintains that the government will have to make funds available for the labour to plant the trees. In other words, it will have to give the minimum wages to the tribals. They are unable to survive without their daily wages and cannot give free labour.

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* The forest department goes in essentially for acacia or eucalyptus, both non-browsing species. Its experience with subabul has been negative. Since it is unable to look after it, goats and wandering cattle eat up the subabul plants, while they don't eat acacia and eucalyptus, as these taste bitter.

As for marketing the trees grown by Balkrishna Jadhav and his three partners, NIRID's answer is that the demand for the fuelwood and timber that these will make available, shall be consumed locally. But what if many such projects come up, which in fact, NIRID is trying to promote? Will then the supply exceed the demand? NIRID's answer is that at no time will the tribals be asked to put more than a fifth of the trees on the market. Even so, this does not take care of the marketing aspect which will need to be tackled if more farmers are to be convinced to take to fuelwood trees as part of farm or social forestry.

Between the trees at Haloli grass has sprouted. The partners derive an income from selling the two crops of grass a year, for buffaloes in Bombay. Next year NIRID will make available to them Hamata and Scabara, tough Australian varieties of grass rich in protein, which will fetch them higher returns. This scheme of NIRID to recover wasteland, conceived in 1978,has at least paid dividends on the four-acre plot in Haloli.

Moreover, under the fodder promotion scheme (subabul being a fodder source) NIRID has been able to obtain for each of the four partners, 50% subsidy to purchase 11 goats: ten females, and one male, from the DRDA. The remaining 50% is made available by the bank at 4% interest. These two wasteland schemes will add to the income of the farmers, helping them to surmount the poverty line. The total cost of the 11 goats is around Rs. 33,000.

NIRID is planning new projects at Haloli (spread over seven hamlets). Under the government order of April 1985, the land is leased to anyone willing to grow trees, then the hills around the hamlets can be covered by trees. NIRID has a proposal to lease the land from the government, and with the Haloli villagers providing the labour force, cover them with fuelwood trees.

2) Duktan Project: In Duktan village (85 kms. from Bombay in Plag Palghar taluka), where NIRID's sub-centre is located, there are 15 small tribal farmers who want to plant trees on their land. Another 15 landless tribals want to participate in social forestry on the hills adjoining the village. The hills belong to the forest department and the people want to work for wages when the government leases the land to NIRID.

Kondia Daroatha, Sarpanch of Duktan, a Madhav Kohli, has obtained eight acres of wasteland along the side of a hill. Four acres were given to him by the revenue department under the scheme for landless tribals and another four by the forest department. He pays Rs. 21.55 to the forest department each year for the land he has leased.

He attended NIRID's training classes, held at its Kukda centre, four times. He also went on a bus tour of the various plantations in the Palghar taluka. Last year he planted acacia, eucalyptus and 150 mango trees. Now he has gone in mainly for acacia, even though NIRID advised him to plant subabul. Like the forest department, he is afraid that animals will eat up the subabul.

Kondia's land already has 4,000 trees. He is planning to plant another 5,000 acacia trees before the rains; he has begun digging the pits. After five to six years they will be worth Rs. 200,000, the trees having been paid for by the forest department, and the land provided by the government, Kondia's input is his labour and that of his family members.

The hill where Kondia's land is located is surrounded by many more hills as barren as this one. They belong to the forest department. It has made attempts in patches, but since there is no community participation with regard to protecting the saplings planted through village labour, they do not survive. Even as the writer of this paper was visiting Duktan, the trees about three feet high around a percolation tank were being eaten by buffaloes, while no one was bothering to frighten them away, as they had been planted by the forest department. These had fencing around them, but the animals did not find it difficult to smash it.

NIRID maintains that if these barren hills are leased to it, through community participation it can turn them into forests. At least the government can begin by leasing the panchayat gurcharan land.

At the sub-centre in Duktan, part of the land is given over to NIRID's nursery. For 1986, it prepared the saplings in October 1985 for distribution to various farmers keen on afforestation. But so far the forest department has not reimbursed NIRID for them. As it is, of the 100,000 saplings, the department has agreed to cover the cost of no more than 60,000; the rest will be donated free by NIRID.

NIRID is keen to stick to domestic sources for funds, but it gets frustrated at the lackadaisical manner of the forest department, among the others. This is why, like other small NGOs, it may have to turn more and more to foreign sources for money. Apart from the Bombay Khadi and Village Industries Association, NIRID received early support from AVARD, New Delhi, since it recognised the possibility of generating employment and income from social forestry on tribal land. Community Aid Abroad (Australia), an Australian counterpart of OXFAM got interested in NIRID. Since 1981, CAA has supported NIRID and its programme through grants to meet staff, transportation and capital expenditure necessary for development work.

Since 1984, NIRID has been able to persuade the District Rural Development Agency (DRDA) and the social forestry department (both of Thane district) to support its work by subsidising nurseries and labour component of the planting work out of National Rural Employment Programme (NREP) funds. Officers of both the departments have taken keen interest in NIRID's work and have given expert guidance, advice and all round support. During the period 1978-85 aggregate collections and expenditures of NIRID have not exceeded Rs. 6 lakhs. During 1986, NIRID also expects to raise some income from sale of bamboo and goats at Kukda and sale of demonstration crops and horticulture decorative plant seedlings at Duktan.

Adjacent to the nursery, NIRID has set up a demonstration plot to show to the tribals, who have for ages subsisted on a one-crop economy, the non-perishable items that can be grown if water is made available. The crops, such as sunflower, groundnut, and onions, are such that they can be stored at home if not sold; thus the tribals do not have to indulge in distress sales and incur loss.

Even when irrigation is made available, the tribals have not shifted from the single crop of paddy. Often they have ruined it by providing it with excess water. The work of NIRID has been to facilitate change in these practices. And it has been partially successful. For example, until NIRID appeared on the scene, Damu Jania Daroatha, younger brother of the Sarpanch,

Kondia Daroatha, used to ruin his paddy crop through excessive irrigation. Since last year, he has obtained more paddy from one acre than he used to from his entire four acre plot. The remaining three acres he has turned over to other crops including trees: subabul, acacia and mango.

3) Tembhode Project: The one and only social forestry project that NIRID undertook on the village common land has flopped. Tembhode, with 40 acres of wasteland, has a mixed population of various castes, of which a third are Harijans and three to four per cent tribals. The Gram Sabha gave NIRID permission to plant trees on the 40 acre plot.

This is significant because it is not always possible to motivate people of different castes as a group. In fact, NGOs working with such groups in villages have had a difficult time, e.g. Gram Gaurav Pratistan promoting tree plantation among a Maratha/Harijan/Shepherd/tribal village group. Its Pani Panchayat projects have succeeded where each caste forms a separate unit. BCT and CROSS have succeeded in afforestation projects by working only with the Harijans.

NIRID had promised to raise the panchayat's income from a meagre Rs. 6,000 a year through grass to Rs. 160,000 a year through trees. It hoped that if successful, it would implement similar projects on other village wastelands. The financial resources raised in this manner would help bring about socio-economic changes.

When NIRID planted 40,000 subabul, acacia, casurina and bamboo saplings in 1982, its objective was to harvest a fifth of the trees each year after the five-year growth period was over. The 40,000 trees yielding firewood worth Rs. 20 each would fetch Rs. 800,000; a fifth of the trees would fetch Rs. 160,000. The scheme was accepted by the Thane district parish which extended a loan to the panchayat. NIRID raised a nursery of 60,000 seedlings and planted them on the 40 acres in 1982.

But the hopes of enabling Tembhode village panchayat to earn Rs. 160,000 each year after 1987 were dashed the following year. For in 1983, the forestry department of Thane district announced that it would develop all village common land at its own expense and hand it over to the Panchayats after three years. Though the forestry department officials had co-operated with NIRID in its other afforestation schemes, unusual and welcome as this was, it did not give in over the development of the Tembhode common land. NIRID had to give up the project and the forestry department took it up.

The result could easily have been foreseen. As elsewhere, there is no community participation in the forestry department's projects. The saplings, thus, have either withered or been eaten up by cattle. Those that have survived three years are anything but impressive; after four monsoons, they are smaller than those grown by NIRID's help are after receiving two monsoon showers.

4) Kukda Project: The main field centre at Kukda was established in 1982. The ten-acre plot on the side of a hill on the central western ghats has been bought by NIRID. On it, has raised a 1,500 tree forest of subabul. The barren hill has been transformed. There are other trees such as casuarina, eucalyptus and bamboo that have received three rains. All have grown on soil

that can be described as red rocky loam. Subabul is doing better than acacia, but the latter shed more leaves and thus, enriched the soil below it much more than that under the former.

The subabul and other fuelwood species have grown so fast that it is difficult to believe that they were planted two-and- a-half years ago. Kukda is NIRID's showpiece. Panchadharla in Andhra Pradesh is BCT's, the differences being that; i) BCT has gone in for a mixed plantation of fuelwood, fodder and fruit trees whereas NIRID has planted essentially subabul and a few other fuelwood species, ii) BCT took up the project in 1978, four years before NIRID.

In June 1986, NIRID will set up a five-acre research plantation near Kukda to be managed by Prof. Chitre, for the strictly scientific exercise of ascertaining answers, among others, to the following questions:

a) What should be the optimum plant population in this region (2,500 mm of rains per monsoon) to get the maximum tonnage of firewood, fodder, and good timber. Monoculture or mixed? What mix?

b) What would be the shortest period of harvesting the trees? It is six years, can it be brought down to five years? How?

c) Has the farmer to wait till the harvest time to derive income from the tree? Can he acquire branch income earlier?

d) Which trees are to be preferred, - those which grow straight and tall, or those with branches?

e) Can any seasonal crops be grown among the trees during the rains and immediately thereafter? What are those?

5) Deheri Project: The most impressive of all projects is in Deheri, a coastal village near Umbergaon in Gujarat, on the border with Maharashtra. Strictly speaking, it is not a NIRID project, but one that Pinakin Patel help set up in 1978. It formed the laboratory for his experiment with trees in Maharashtra. The casuarina plantation at Deheri is as old as the Bharatiya Agro-Industries Foundations' subabul plantation in Uruli-Kanchan (Maharashtra) and BCT's mixed plantation in Panchdharla (Andhra Pradesh), and it compares favourably with both. The forest is well maintained. The eight year old trees tower above their surroundings.

It all started with the new sarpanch, a fisherman's son who had returned after acquiring a law degree, with ideas of integrated village development. But the annual revenue of the village from its various assets was a mere Rs. 3,000, and nothing striking could be done with it. Along with Pinakin, the sarpanch hit upon the idea of increasing the revenue by raising a tree crop on the 35 acres of panchayat gurcharan land.

They presented a plan of planting 50,000 casurina trees to the Gujarat forest department. It was accepted. With the help of the forest department of Valsad, 35 saplings were planted. Now there is an impressive forest of casurina trees, a tribute to the unity and commitment of the people of Deheri village and the leadership provided by the panchayat.

The market value of the trees is around Rs. 8 lakhs, and if deposited in the bank at 12% interest, it will fetch an annual revenue of Rs. 96,000. With this income, the village Panchayat can, on its own, take up development schemes such as making drinking water available and providing better medical and schooling facilities. It no longer needs to turn for financial assistance to the taluka, district or state authorities.

B. Alternative Energy

As far as NIRID is concerned, biogas plants provide only cooking gas and fertiliser slurry, the cost of which is more than what the tribals, who live below the poverty level, can afford. Biogas plants neither create rural employment nor generate additional income.

NIRID believes that per unit subsidy for social forestry is far more beneficial to the community of people living below the poverty line, than technical innovations to save energy in the rural areas. That is why it has not promoted biogas plants or smokeless chulhas.

Factors of Success

It is clear, then, that NIRID has succeeded in its afforestation programme with the tribals. First of all, the tribals have viewed social forestry as an economically viable proposition. Social forestry, NIRID maintains: a) utilises wasteland, b) creates work, c) supplies firewood, fodder, household timber, dry leaves for compost formation, d) brings back birds and animals, e) retains water in the soil and checks erosion, f) creates humus, g) provides numerous other ecological benefits, and h) costs relatively little.

The second factor is the people's involvement in the project. In each village or hamlet (pada) where tree-planting work has been taken up, NIRID has set up Samajik Vanikaran Mandals. Membership is restricted to those who have planted 50 trees and pay a fee of Rs. 1 per year. The mandals are unlike village level organisations set up by other NGOs, where the entire community can participate. A conference of all the mandals is held twice a year to discuss experiences, problems and plans. But the capacity of the mandals to take up various projects remains untested. These are young organisations. Once the tree crop of NIRID's first plantation is sold in the next two to three years, demonstrating to the villagers the viability of such schemes, perhaps then the mandals will begin to play a more effective role. It is important to build such capacity if they are to be self-reliant, or for that matter, if the project is to succeed.

NIRID is run by three trustees. The field staff comprises four graduates, including a woman, who have specialised in rural development. They live at the Kukda centre and on an average cover 100 kms on their motor bikes each day as part of extension work. Their job includes contacting farmers, advising and supervising their plantation work. They are responsible for raising the nurseries, and they hold training classes at the village as well as at the centre at Kukda.

However, no project can be considered really successful until the whole community including women participate in it. This does not seem to be happening in NIRID. As yet the tribal women have not taken any part in the

tree plantation projects. But they stand to gain the maximum once the trees make fuelwood available in their backyards, for which today they walk for as much as three hours a day. After they benefit from the plantations, NIRID expects them to begin playing an active role in promoting them, perhaps helping their men in putting up saplings and tending to them.

This indicates that the village level organisations, the Samajik Vanikaran Mandals, are not particularly democratic, or effective, or both. In similar organisations set up by other NGOs, women have participated actively. Indeed, in some they play a more dominant role than the men. Here, their lack of participation is surprising because concentration is on fuelwood. But even in this aspect, men seem to be deciding for women.

Possibilities of Replication

NIRID will be able to replicate afforestation projects, as NGOs with its technical expertise and experience generally can. But as in the case of most other groups (tribal, Harijan or mixed caste), the people themselves, through their village level organisations, will not be able to launch similar projects on their own. The decision to plant a tree is entirely that of the tribals. But as NIRID leaders observe, it takes considerable persuasion, persistence and patience to make them arrive at this decision. Once taken, they have to be guided to dig pits, put up fencing and plant the seedlings. In that sense, participation of the people seems to be conditioned considerably by NIRID.

Initial discussions on farm or social forestry take place at the village meetings. More meetings are held for those who get interested and doubts are cleared. The keen ones are invited to the Kukda centre for a three-day education and training programme.

Even after all this effort, the tribals by and large, have not got particularly excited about afforestation schemes. A tribal takes a long time to understand the economics and mechanics of tree farming for the simple reason that it has not been attempted before. Until now they have viewed forests as a natural resource. Today they have to view it as a resource which they produce. As NIRID leaders observe, the whole process of developing a people's movement for forestry is necessarily slow. To think, therefore, in terms of millions of hectares and crores of trees per year is unrealistic. At the present stage of development, the tribals will be able to take up afforestation schemes only if NIRID assists them, and not by themselves.

FOREST PROTECTION BY THE PEOPLE: NIPDIT, PHULBANI

In the 1970s, the National Institute of Bank Management (NIBM), Bombay, which helps with the selection and training of bank personnel and conducts research, launched a new scheme to promote farmers' service cooperative societies and Large Area Multipurpose Cooperative Societies (LAMPS) with the objective of extending the rural banking system. The people who were taken for the job either had experience of serving in the rural areas, or were keen to work there. Among them were Ram Chandra Dash and Raghunath Behera, the founders of the National Institute for People's Development Investigation and Training (NIPDIT) at taburi in the Phulbani district of Orissa.

R.C. Dash, the architect of NIPDIT, had previous experience of working for a voluntary organisation. Soon after he finished college, he joined Father Vindy's Village Reconstruction Organisation's (VRO) centre in Orissa. After spending a couple of years with VRO he read NIBM's advertisement in the papers, thought that it offered an interesting opportunity in an area he was already committed to, applied for the job and was recruited with another 98 candidates.

After having worked with this Rural Action Project (RAP) for a few years the NIBM recruits realised that they were able to do very little for the weaker sections of society among which they were working. The suggestions made to the government on their behalf by NIBM were ignored. They felt that it was because the State Government, controlled as it was by the vested interests, was not in favour of any social reform in favour of the weaker sections. This attitude contaminated the sponsoring agencies like the Regional Rural Banks and the Registrar of Societies, which did not show any interest in cooperating with the scheme.

That was when the whole RAP team dissociated itself from NIBM and formed the People's Institute for Development and Training (PIDT), before NIBM wound up the project. Their objective was to work full time to improve the lot of the Scheduled Castes and Tribes. Centres were set up in several states. Ram Chandra Dash, Raghunath Behera, Rabi Ray and Sankarsana Hota, who were from Orissa, elected to work around Paburia in Phulbani district.

Even as the tribals began to wake up to their condition in Phubaria region as a consequence of the efforts of the Orissa group, and a momentum was generated, it was asked to move to other centres. Its members decided to stay in Orissa, which meant resigning from PIDT though they have mentioned links with it.

R.C. Dash and Raghunath stayed on in Paburia and founded NIPDIT, which was registered in 1983. Rabi Ray founded Lokshakti in Baleshwar district and Sankarsana Hota set up People's Institute for Participatory Action Research (PIPAR) in Dhenkanal district.

Human Resource Development

NIPDIT is among those organisations that focus on the conscientisation of the rural poor. Unlike specific projects, it is difficult to assess the extent to which human resources have been developed, which is what conscientisation or awareness programmes are all about. But in the long run this is the most effective and efficient method of bringing about change in the existing order. Conscientisation programme is essentially an education-cum-training programme. At Paburia it involves an anti-liquor drive among the Khonds and some Scheduled Castes, fighting superstitions and wasteful expenditure on occasions such as marriage and mada (funeral) ceremonies; cultural activities (including street plays); research studies into local problems like the high primary school drop-out rate, forest environment, forest-dweller economy and people's science education and environmental education programmes. Training programmes include training animators for villages and other organisations, training tribals in improved methods of agriculture, training women and youth leaders. Conscientisation

has to be based also around certain specific issues. The economic programmes are some concrete issues that have furthered the awareness of the tribal groups among which NIPDIT is working.

The Khond tribals of Dadaki village, eight kms. from Phulbani, where NIPDIT has recently opened a centre, are more aware than those in the Kerandimals where Gram Vikas is operating. But they too need all the help they can get to obtain a better deal. Bimbadhar Malik, tribal leader and ex-sarpanch of Dadaki village, said that NIPDIT's training programmes had brought about attitudinal changes. The 30 people that it had trained were in turn spreading awareness among the tribals, who have now become conscious of the number of ways in which they are hoodwinked, by the moneylender, merchant and other exploiters.

Under a government notification, the forest department is supposed to give Rs. 7.50 in daily wages to the tribals for cutting the bush under the Kondu trees. Instead, for seven hours work, they receive no more than Rs. 3.25, less than half the daily wage. In 1986, the labourers who had become aware of exploitation by the forest department, organised themselves into a group, demanded and got the minimum wages.

Traders cheat the tribals while weighing the produce they buy from them. They are also paid a low rate for the forest and other produce such as paddy, turmeric, maize and cereals. Many tribals of the area own about one to five acres of land.

NIPDIT's conscientisation efforts have begun to put an end to the more overt forms of exploitation. In areas where NIPDIT is operating, the Khonds cannot any longer be so readily taken for a ride. They have even set up organisations of their own to check being cheated by outsiders. Its tactic is to help the khonds to set up a village common fund, which enables them to become self-reliant. In one village, NIPDIT organised the youth to collect tamarind from the trees in the village, which they sold in the market, making a profit of Rs. 5,000. This has been deposited into the village common fund to be utilised for activities that will benefit the community. Prior to NIPDIT's intervention, an outsider used to lease the trees, pay wages to a handful of tribals to collect the tamarind, and pocket the profit. In other villages NIPDIT has launched other income-generating projects, including pisciculture, to create the village community fund.

Economic Programmes

Tribal stone-crushers (the stone chips used for construction of buildings and roads) of Kutiguda village, Tikabali block, Phulbani district, used to hire the equipment from the contractor who bought the stone chips from them at a low price. At the instance of PIDT, the eight tribals were able to secure a loan from the nearby branch of the State Bank of India (located at G. Udaigiri, 15 kms from Kutiguda) of Rs. 200, each with which they bought the implements - hammers, crowbars, pick-axes - and now sell the chips to the highest bidder.

The tribals of the regions were being neglected by the LAMPS, a registered body headed by a government servant. PIDT identified the beneficiaries under its jurisdiction and obtained loans up to Rs.3,500 for tribals in Tikabali block to dig wells for irrigation and drinking water.

Once NIPDIT was formed, it decided against securing benefits for groups, for this helped only a few. Instead, it went in for securing economic benefits for the village community as a whole. At one level was its effort to strengthen or revitalise village organisations, the youth and women's groups and the Anchalit Vikas Sanghatana, and at another level was the drive and the economic development movement that benefited the entire community.

The strengthening of the women's organisation in Bagapada, Tikabali block, led to the creation of the women's production cooperative, which has, among other things, taken to powdering turmeric, a village produce. The advantage is that whereas the Khonds received on an average Rs. 10 for 10 kgs. of raw turmeric, after powdering the same quantity, their returns are twice as high.

At Kutiguda village, Tikabali block, NIPDIT helped the Nari Sangh, a women's cooperative, to take up til (oilseed) cultivation. This gave them the advantage of exchanging the oilseed for paddy from procuring agents. They dehusked it and sold it to the community shop. The profit went to the women's cooperative. The husk is being sold to the owners of animals. Other villagers are all set to emulate the example of the women's co-operative of Kutiguda.

NIPDIT Involvement in the Biomass Movement

A. Social Forestry

NIPDIT has taken up two small afforestation projects recently. It is not big on social forestry, having concentrated on protecting forests around villages where it is operating, an activity which it describes as "eco-development". Being essentially a conscientisation group, it has not until now been able to give the importance due to planting trees and that too in a tribal economy. The five acres of village common land on which the social forestry project was implemented last year belongs to 70 families of Gutingia village (Tikabali block, Phulbani district) of which 61 are tribals, six from the Scheduled Castes and three other castes (Gwali, Dhobi).

NIPDIT relied entirely on the forest department to supply it with seedlings of fuelwood, fruit and bamboo trees. As other voluntary organisations have learned to their cost, this is not a satisfactory arrangement. The forest department agrees to help, but is invariably behind schedule. NIPDIT received some timber species and very few fruit-tree saplings of mango, guava, jackfruit. The tribals preferred these to fuelwood and planted them though the forest department gave them after the 1985 monsoons. Apart from a stormy sapling or two, all others have perished. The five acre plot presents a desolate picture. NIPDIT admits that the survival rate would not have been zero per cent had it asked the forest department for some fast-growing fuelwood species which would have survived the late plantation under the care of the villagers. In its future projects NIPDIT may concentrate on fuelwood species. It has also decided to have a nursery on its own.

The second afforestation project is on seven acres of common land belonging to the residents of Betika hamlet in G. Udaigiri block of Phulbani district. Of the 65 families, 30 are tribals, 22 Scheduled Castes and the remaining 13 are Christians.

The Forest Department promised to supply 10,000 tamarind, bamboo, gambhari (timber species), jackfruit, mahua and marking-nut saplings by the first week of July 1985. It also offered to supply eucalyptus, which was available with it. But the tribals, aware of its harmful consequences, refused to accept it.

The department was able to deliver no more than half the saplings it had offered and that too in August, after the planting season. But thanks to the care of the villagers, fencing has been provided for saplings within the reach of cattle; 50% of the trees have survived on a rock-infested, steep hill-side (part of the Eastern Ghats), which can be compared to the worst patches of wasteland available in the country. The villages, however, do not appear to have done the necessary weeding.

B. Eco-development

Forest protection, not afforestation projects, has been NIPDIT's focus. As the tribal economy is linked to the forest, eco-development camps are organised where people from 40 to 50 villages gather to discuss problems related to deforestation, podu (shifting) cultivation, forest produce, forest laws and other forest-related activities. Government officials of the forest and rural development departments are invited to participate and answer questions.

At these camps, a common plan for the villages is drawn up. The plan declared as a result of the decision taken by the villagers, relates to villages which will abandon podu cultivation, those that will protect the village forest and those which will take up the government plantation scheme.

Until 1984, the funds made available by the District Rural Development Authority and the Department of Environment were meant for conscientisation. Thus, they were utilised for holding discussions on forest-related issues. Since last year, funds have been made available for eco-development and so NIPDIT has launched other components of its forestry programme which includes nursery raising, tree plantation, soil conservation and water sanitation. This has led to afforestation or social forestry. During the last four years, various government departments have made Rs. 115,000 available to NIPDIT for forest protection, eco-development camps and social forestry. For its regular salaries, infrastructure, income generation schemes and other expenses, NIPDIT has depended on foreign contributions which have totaled Rs. 386,000 over the last four years.

The forest protection measures have already begun to provide returns. The forest areas protected have yielded sal seeds used for oil extraction and sold to government license-holders, siali leaves (a wild creeper variety) used for plates in restaurants and temples and fuelwood. The randomly grown fruit trees will also shortly begin to yield jackfruit, mango, tamarind and mahua which is their high nutrient food during the lean season and is also used for liquor.

NIPDIT is satisfied with eco-development camps that were first organised in March 1982. Since then 18 camps have been held, 496 villages in the four districts of Ganjam, Kalahandi, Puri and Phulbani involved, and as a consequence, 300 hills and hillocks (of the Eastern Ghats) involving 7,000 hectares of land have been protected. More than 2,000 families have stopped podu cultivation, which in the past wiped out vast tracts of forests.

The 160 families of Mondakia village (25 Harijan families and remaining Khond tribals) have protected one hillock for four years and another for ten years before NIPDIT was even conceived of. These hills have a flourishing growth of sal trees and stand out in sharp contrast to the surrounding denuded hills, which are apparently under the care of the forest department. NIPDIT's contribution has been to make the tribals of Mondakia give up podu cultivation.

However, harassment from the forest department continues. Mondakia's residents complain that even after they take permission to cut fuelwood/timber from their village protected forests, the forest department officials harass them. NIPDIT volunteers drew the attention to this and other malpractices when Mr. Rajiv Gandhi visited Mondakia and a few other villages such as Paburia, Kutiguda, Bogapada, Maleriama on July 26, 1985. Though the Chief Minister, Mr. J. B. Patnaik, who accompanied him, heard all the complaints, the situation for the tribals of this area remains unchanged.

One can see that the tribals of this area are more alert than those in areas like the Kerandimals. One reason why the tribals appear more alert than say, those among whom Gram Vikas is working and who live in isolated hamlets, is because they live in villages along with plainsmen (mainly Harijans) and are thus exposed to other ideas. Moreover, Christian missionaries are active in the area, running mainly health-care schemes, dispensaries and hospitals.

Alternative Energy

NIPDIT maintains that if forests are vigorously protected, the biogas scheme will not be necessary, for they will, without any damage to the environment, amply meet the fuelwood and timber needs of the local population. But that is not the only reason why it has not gone in for biogas plants. The major one is that the tribals are too poor to maintain the requisite number of animals to provide dung for the smallest plant, and as yet, NIPDIT has not attempted to set up community units.

It has had a shot at the smokeless chulha scheme. Around Paburia it has set up 240 chulas with the aid made available by OREDA. It secured trained masons from the voluntary organisation, AFFORD. But this programme has flopped; the Thapoli (unmovable) chulhas have not caught on. Their heat-generation capacity has been limited, the chimneys have been short and in some cases the huts have caught fire; they have proved unsuitable for the locally used utensils which can be large, especially those for boiling rice, the staple food of the area.

Decision-making Process

One can see that though NIPDIT's achievements in the form of social forestry have been limited, they have been very successful in the forest

protection measures. Of the five Orissa groups studied, the people in NIPDIT's operational area seem to be the most conscious of environmental and social issues. As such they have been able to resist the vested interests that cut the forests more than any other group. They are among the few who have been able to view the environment as the life system of the people that needs to be protected and not merely as an income generating programme.

The reason for this success can be seen in their approach. First of all, they concentrated mainly on the youth and on women. Secondly, they used existing organisations and updated them instead of forming new organisations and spending their time making them acceptable to the people. Thirdly, they limited themselves to issues that were of immediate concern to the people. These were deforestation and marketing. Finally, they worked on the unity of the tribals (an approach that has been followed by all the Orissa organisations). However, given this success in the consciousness of environmental issues, one is surprised to see the lack of success of the social forestry schemes. NIPDIT seems to be better equipped for conscientisation and forest protection than for environmental regeneration. It is important for NIPDIT to built on the consciousness of environmental issues among the people and support action in favour of people-oriented community forestry and energy saving programmes like community biogas plants.

To begin with, the organisation of women and youth; when NIPDIT came to the region it found the women's and youth organisations to be peripheral to the life of the community. The Mahila Samithi had been set up by the BDO. to operate government schemes for feeding children and pregnant women. The Yuvak Sanghs took part in occasional sports and cultural activities. NIPDIT has strengthened both these organisations by making them take up issues that affect their day-to-day life. The Yuvak Sanghs now include the men of the village. At the apex of the two village organisations is the Anchalik Vikas Sanghatana (Regional Development Organisation), comprising all 20 villages where NIPDIT is active.

These organisations take decisions on various aspects of community life, including social forestry and forest protection. They have set up institutions of their own that ensure that they obtain the maximum returns for their agricultural produce. The union of vegetable growers, for example, has done away with middlemen.

The Anchalik Vikas Sanghatana has recently been given charge of two fair price shops, one at Paburia and the other at Malerima. These are distinct from the community shops set up in each village with a matching grant from NIPDIT. The shops owned by the tribals market the items grown by them on their land at cost, plus a small profit, and have done away with middle men. They would like to take up the marketing of forest produce as well but this is the monopoly of the Agency Marketing Cooperative Society (AMCS), a registered body headed by a government official. As far as the tribals are concerned, the AMCS exploits them as much as the middlemen do.

Women's Participation

An important aspect of this decision-making process has been the participation of women who have been receiving training at the NIPDIT centres in child and health care, and the setting up of women's organisations. But questioning them reveals that their knowledge on these issues is cursory at best. It is mainly because NIPDIT is primarily a conscientisation group. As such, they seem to be more aware of social evils. The main benefit they appear to have derived from the training centre is the capacity to fight social evils. They claim to have put a stop to the making and drinking of mahua liquor in 100 of Tikabali, G. Udiagiri and Raikia blocks. Though they launched this campaign with NIPDIT's help, it has spread beyond its area of operation.

The women admit that they were aware of the harmful impact of mahua consumption before NIPDIT appeared on the scene. But they could not combat it for want of unity. This was created through the education sessions of NIPDIT. And these get- togethers have made them conscious of the need to protect the forest, much more than before. Hence, they are cooperating with their men to ensure its survival.

Conclusion

One can see, then, that the human resources required for launching major initiatives in the environmental field are already there. But financial and technical resources that should come from the government are scarce. In spite of this, the people of the Paburia area will remain active in the field. The tribals will continue to need the help of NIPDIT in launching social forestry projects. Its nurseries will provide them with saplings; its members the necessary advice for selecting a proper mix of the fruit, timber and fuelwood species. Hence on their own, they will not be able to launch afforestation schemes.

But they have developed sufficient concern to take to forest protection measures. Hence, as a result of tribal vigilance, forests will not be felled in areas where NIPDIT has spread the word. Podu cultivation has, and will, be discontinued gradually in an ever-widening area around Paburia in Phulbani district. In other words, they are able to look at both forest protection and social forestry as the tribals' life system, not primarily as an income generating activity. One needs to build on this awareness and go beyond forest protection to environmental regeneration. Pressure needs to be put on the forest department to support those moves rather than be an obstacle.

ACTION AGAINST DEFORESTATION: PEOPLE'S INSTITUTE FOR PARTICIPATORY ACTION RESEARCH, ORISSA

Sankarsana Hota, the founder of the People's Institute for Participatory Action Research (PIPAR), was an NSS volunteer while in Dhenkanal College, from which he graduated in 1975 with a degree in economics and politics after which he did his master's in sociology. Hota took an active part in the 1971 movement to raise daily labour wages from Rs. 3.50 a day. During the period of planting seedlings, the labourers stopped work, posing a threat to the future crop harvest of the upper caste landowners who included Brahmins, Kshatriya, and Chasa. The wages were raised to Rs. 4.50 a day.

In 1977, Hota joined the National Institute of Bank Management (NIBM), which he left along with some others and joined the People's Institute for Development and Training, in order to be able to serve the people in their own area. He remained only for a month before returning to his old college in Dhenkanal, where he started teaching. Shortly after that he set up PIPAR, at Mahimagadi, in the Dhenkanal district of Orissa.

Among the earliest actions of PIPAR was organising the youth into the Jana Kalyana Yuvak Sangh (1981), with the objective of changing the village power structure so that the dominant castes did not continue to corner the resources meant for the community. For instance, the Sangh took charge of the income that accrued from the village pond (Rs. 20,000) and has used it for projects that benefit the majority. This was first started in Hota's village and then spread to the others.

The Sangh has also begun to build the youth centre and gradually wrested the leadership from the traditional castes. Though the sarpanch is still a Brahmin, many of the members of the Panchayat and elected bodies belong to other backward castes.

The NGO's Involvement in the Biomass Programmes

The PIPAR volunteers introduced afforestation programmes at the request of the people. Involved as they are in the drive to conscientise the tribals who include the Sabara, the Munda, the Santhal, the Malhar and the Najhi, this is natural and one would have expected a bigger operation. PIPAR operates essentially in two talukas, 12 villages of Sadar block with a mixed population, and 50 villages of Gondia block in the Dhenkanal district. They operate primarily with tribals.

In the Gondia block, timber smugglers with powerful political links used to come in their bullock carts from 30 to 40 kms away to cut trees. They would frighten the tribals into submission by threatening them with axes and spears. The smugglers who came to the area twice a week would then cut all the trees in the forests, even those belonging to the tribals. The latter were thus deprived of their food and fuel. The smugglers would destroy the crops belonging to the tribals, take away their animals without payment and subject their women to abuse. When some tribals objected to this injustice, the smugglers, belonging to the dominant caste of the area, burnt their villages. Moreover, the tribals were often forced by the smugglers to cut trees as daily wage labourers. When cases were filed by the Forest

Department, the tribals became the victims, since they did not remember or did not care to remember the names of the outsiders who had employed them for cutting wood.

Conscientisation Programme

PIPAR began to assist them to check such blatant exploitation. As part of the conscientisation programme, PIPAR launched a campaign to make the tribals aware of the various ways in which they were getting a raw deal from the outsiders. As in the case of other NGOs studied, the conscientisation drive preceded the afforestation effort. At the village level meetings since the early 1980s, PIPAR raised several issues related to the tribal way of life. The prime problem of theirs has been drink and PIPAR has successfully helped the tribals see how they lose their money to outside liquor merchants. PIPAR's animators (sahavaks) even motivated the tribals to destroy their illicit stalls in the area in 1982-83.

Among the issues PIPAR has taken up, we can mention the land rights of Santhal tribals who have settled in a hamlet called Kolha of Gondia block, after migrating some years ago from the Keonjhar district, in search of livelihood. They first went to Cuttack in search of work where they met the Sabaras from whom they learnt of the vacant forest land. Gradually, they began to drift towards it and by 1981 they had set up the Kolha hamlet.

The Forest Department initiated steps against them, but PIPAR intervened and moved the court. For four years the magistrate dilly-dallied. A sympathetic collector took the initiative and allowed the Santhals to settle there.

Since 1985, PIPAR has been gradually securing house pattas for the Santhals. The houses have been built on a co-operative basis. Skills such as the production of Khaparli bricks of burnt clay for the roof were acquired from friends of the community.

PIPAR has also persuaded the local bank (UCO Bank, Deogaon) to extend loans to the youth and women for purchasing sewing machines. They are engaged in making ladies' under-garments, earning Rs. 5 to Rs. 6 a day. They have also set up a small community provision shop so as not to be dependent on outsiders.

Discussions on land alienation and redemption were initiated by PIPAR at all the village committees. They were made to answer specific questions such as why they mortgaged land and made it easy for outsiders to corner it, and how much they had paid for it. Through their calculations they arrived at the conclusion that they had more than paid for the mortgaged land, and consequently called a meeting of the landlords and asked them to return it. Some agreed to do so while others attempted to break the tribal organisation on the land issue. Twelve cases have been launched against PIPAR but 184 acres have been obtained for the tribals.

Once the land was obtained, PIPAR tried to mobilise financial institutions to extend credit to the tribals, to enable them to cultivate the land. This was not easy. For several tribals had taken loans from cooperative banks which had not been repaid, partly because of improper use

(not for productive purposes) and partly because they did not receive the sum due to them. It was pocketed by the official who offered the loan on the condition that he got a cut. The tribals thus were not too keen to go to the banks, just as the latter were not in a hurry to take what appeared to them to be a bad risk.

PIPAR persuaded the commercial banks to do a survey of tribal land. Two of them, the United Commercial Bank of Deogan and the United Commercial Bank of Gondia, extended loans to 120 farmers. They have since gone further and have extended loans to tribals to open provision, grocery and cloth retail outlets; some tribals have even gone into trade, in vegetables for instance, through bank loans. They have been repaying the loans, motivated by the meetings that PIPAR and the banks organise at regular intervals.

From land alienation, discussion shifted to the loss of their forest resources and the cause of their destruction. The participants tried to see whether any solution could be found to deforestation. Sankarsana Hota, being himself a local person was able to share his own experience and tell them how the forests were lush and green in his younger days.

Such discussion led the tribals to realise how their life system was being destroyed. They depend on minor forest produce (MFP) for more than 50% of their food and most other needs. Because of this dependence, they had developed a culture that kept a balance between human and ecological needs. Forests had thus been treated as a renewable resource. But intervention of outsiders, who viewed forests only as timber for profit had resulted in deforestation, starvation and impoverishment. Unless the tribals arrested this trend, they would be subjected to slow-death.

Forest Protection

From this process arose the two forest-related programmes of the people viz. forest protection and afforestation. The first was the result of the tribals organising themselves against timber smugglers. Realising that deforestation by the smugglers deprived them of the very life system on which they have depended for centuries, the tribals decided to stop the smugglers from entering their area. Thus, in November 1982, the people of Sarasaipada came together with bows and arrows to resist the aggressors armed with axes and firearms. A fight ensued that left one person dead. Several court cases followed but the local administration was also forced to take note of the situation and the district collector adopted this village.

The tribals who had till then seen their life system being destroyed with impunity, viewed this as a success. They felt that they would succeed if they came together as a group and united to resist the enemy. As a result, the forest protection movement spread to over a dozen villages around Sarasaipada and by now it has caught on in many other places. Thus the major involvement of PIPAR is in forest protection programmes. The experience of villagers that have been successful in resisting intruders inspired others. They keep discussing this question in their village and discover new ways of saving their life system.

There has not been much violence since 1982 because the smugglers have realised that the tribals who are united for their very survival can be stronger than the outsiders who enter the area for profit. Another method is to enforce the traditional social control over the use of forest produce. Traditionally the tribals had very strict rules governing the use of timber and fuelwood. This was meant to ensure that the forests were not destroyed. Many village committees have modified these rules to suit the changed situation and enforce them on the people.

PIPAR also attempted another forest saving device viz. biogas plants. But these have not been successful since the tribals are too poor to own the requisite number of animals. However, PIPAR has been able to mobilise NSS from which it had got initial inspiration. With the help of these volunteers, the organisation has been able to install 200 smokeless chulhas in the area.

There are some villages in which forest protection programmes have not been well planned. In villages like Nathua where there has been a much longer process of discussion than elsewhere, these programmes have been better planned and more successful than in other villages. They have done a better job protecting trees on forest department land than even on village commons.

Social Forestry

PIPAR took to afforestation on the request of the 100 families of Nathua village of which 45 belong to the Kulottam caste, 25 to Scheduled Castes and the remaining are tribals -- Satala, Juanga and Sabara. The villagers grow cashew on 22 acres of revenue land. The mortality rate was nearly 100 per cent. For when the rains failed, the villagers were not able to provide the cashew plants with any water. Since there was no water available, they would have been best advised to plant dryland trees that do not require water, or not as much as cashew does.

Then they turned to PIPAR whose first move was to dig a well in the 22-acre plot at a cost of Rs.8,000. Now that irrigation is feasible, cashew, which has again been planted is doing well, the survival rate being 75 per cent. The villagers who take it in turns to look after the plants, are paid Rs.8 to Rs.12, depending on the season. The higher wages are given in the harvesting season when the demand for their services is high.

The contribution of PIPAR has been primarily in getting external support for these programmes and facilitating a process of reflection among the people. They have thus been able to mobilise NSS volunteers, get the district collector to support the people and mobilise resources from the Department of Science, Technology and Environment as well as OREDA.

PIPAR's main contribution to the tribals' way of life has been to persuade them to take to the cultivation of more crops and a wider range of trees. They view afforestation only as an income generating programme and grow only cashew, since it is the most profitable. PIPAR has been encouraging them to plant trees that would improve their nutrition. The Santhals have planted a number of fruit trees including papaya, guava, palm and lemon. But this is not the case with most other villages. In these cases it has remained an income generating programme and PIPAR tries to turn it into genuine social forestry.

The government has been helpful. It has provided them with a tube well, whereas the science, technology and environment department of the state has set up with the help of Bharat Heavy Electricals Ltd., a solar T.V. cum community centre.

Success within Limits

One can see then, that within the limitations of the group, the project has met with considerable success. It has been able to motivate the tribals to come together as a group, see the strength of their unity and resist the destruction of their life system. They have been successful in some plantation programmes and smokeless chulhas.They have got the cooperation of NSS volunteers and many government departments in this enterprise.

On the other hand, one can also see that their work has several limitations. First of all, they have not been able to implement programmes like biogas plants. While they have been successful in preventing deforestation, their plantations have mainly been economic programmes like cashew. In fact, PIPAR itself states that their plantations were meant to be income generating programmes and were more an effort at land development than at afforestation. Even these efforts are limited. However, through reflection on these efforts, the people are becoming more aware of the human and ecological implications. PIPAR has been instrumental in beginning this reflection.

The success in many aspects is to be attributed to the approach of PIPAR and the limitations to the paucity of its resources. To begin with the positive side, they have been able to form village and regional level committees of the people and help them to reflect over their situation. This has enabled them to come together as a group and to take action which, in isolated units they would not even be able to conceive of.

PIPAR has concentrated not so much on setting up village committees as Yuva Sanghs, which are also open to the adults of the community. It appears that there is a very strong sense of hierarchy present among the Sanghs. At the Bhatkatani village of Sadar block of Dhenkanal district, which is inhabited entirely by the Scheduled Castes, it was difficult to get the youth to speak in the absence of the President and Secretary of the Sangh who were not to be found. It took over an hour to persuade the assembled youth and men to reveal the benefits that the sangh had procured for them. This does not speak well of the democratic nature of the sangh. It is possible also that their refusal to speak up is part of the reticence of the villager. But usually this trait is strong among the tribals, not the Harijans.

After much prompting it was learnt that the sanghs, thanks to the guidance provided by PIPAR, took a more enlightened view of protecting forests; it now tackled village disputes which formerly were submitted to members of higher castes; it had successfully fought prohibition; and by securing village road and other contracts, it helped the residents of the village. Thus though the sangh has limitations, it brings the youth together to discuss common problems at the general body meeting of all the members of a village before arriving at a decision. Thus it ensures that when a decision is taken it is internalised by the people and usually comes from them.

However, PIPAR does not seem to have developed sufficient clarity in its understanding either of the environment or of its social significance. As a result, it has not been able to give sufficient support to the people in the form of the type of trees to plant, their utility, economic feasibility etc. As a result, many villages have not been able to take to community forestry. That when reflection was serious the people could be effective, was seen by the fact that some have taken to a variety of trees and have not restricted themselves to cashew. But this effort has been limited.

Women's Participation

PIPAR has devoted some of its training programmes exclusively to women. Apart from raising their awareness, these are directed at enabling them to make extra money to defray household expenses. They have been trained to weave bamboo baskets. More significantly, they have organised an efficient system of obtaining the raw material for the basket and other products. Until a short time ago, they were entirely dependent on men to secure bamboo from the forests. Usually a male from each household went to collect it when he could spare the time; the collection was uncertain and limited. Since then, on the appointed day, a number of men go together and fell the bamboo, which is transported in carts made available by PIPAR. Now the women get an assured and required amount of bamboo. This enables them to substantially raise their output. Previously they earned Rs. 1.80 a day; now working part-time from their homes, they make Rs.2 to Rs. 2.50 a day through bamboo products.

The other income generating programme initiated by PIPAR is tailoring. Twenty four girls of Dadhisinga village, Gondia taluka, have already been trained in tailoring. Another programme is in progress in Jaranda village, Gondia taluka. They make dresses for themselves and their family members. The local banks have made funds available for the purchase of sewing machines.

However, women do not seem to have been sufficiently involved in decisions concerning social forestry. The programmes are mainly for income generation. Food and fuel needs have not been taken into consideration,except in the smokeless chulha programme.

Most of these shortcomings have to be attributed to the paucity of resources at the disposal of PIPAR. Financially, for five years (1981-1985) they have received a total of Rs. 6,11,452 as contributions which works out to Rs. 122,290 per year; an obviously small amount when one realises that about Rs. 200,000 of this were for the plantation programme, Rs. 121,000 for flood relief, Rs. 125,000 for salaries and Rs. 95,000 for income generating projects.

All of this, except Rs. 17,800 came as foreign contributions. Besides, PIPAR does not have the type of infrastructure which many others have. Till two years ago it had very few staff members, a very small office and relatively few contacts. But they have been able to put this limited infrastructure to fairly good use. Given this good use of its limited resources and infrastructure, their work is probably more replicable than that of other groups that have done more depending on much greater resources and a heavier infrastructure. It is replicable in the sense that this approach is accessible to most small groups that have limited resources and infrastructure.

On the other hand, this also shows why most government funded projects are not replicable. They depend on the infrastructure which a voluntary agency has already developed but the government itself does not in any way support the smaller group in its early years. As a result, most government funds reach the bigger groups and not those that can be effective at a much lower cost.

FROM NON-FORMAL EDUCATION TO TRIBAL SOLIDARITY
PEOPLE'S RURAL EDUCATION MOVEMENT

The People's Rural Education Movement (PREM) was launched in 1980 by two priests from Kerala, Father Chacko Paruvanany and Father Jacob Thundyil. The project began as a non-formal education programme and its animators were trained by the Andhra Pradesh Social Service Society and the Mobile Orientation and Training Team of the Indian Social Institute, New Delhi. After execution tours of Andhra Pradesh (organised by the Andhra Pradesh Social Service Society) six persons forming the core team, established PREM. Their initial move was to launch motivation programmes in 15 villages of Mohana taluka, Ganjam district which involved songs, role plays and discussions lasting two days in each village. Initially, it was only known as a non-formal education team. Only in 1984 was it registered as a separate body called PREM. It has its office at Nilakanta Nagar in Berhampur. Thus, PREM's entry point into rural life was through adult education. The animators were elected by the village community. They received ten days' training by PREM in adult education which included awareness building, functional literacy and functional upgrading. The fact that all the animators belong to the local community and were elected by them may be one reason why the same group has remained unchanged for five years. Most voluntary organisations have animators coming from outside the region and turnover is rapid. In PREM, on the contrary, except for the two initiators, all the others belong to the local community. In that sense it can be called a grass roots organisation.

The Approach of PREM

Afforestation has so far received much less importance than it deserved since PREM's main objective is building up solidarity among the oppressed. Its ideology emerges when decisions on schemes affecting the tribals are taken. These are arrived at by the people's organisations which PREM has helped to set up. At the village level, the two are Gramyo Sangho and the Mahila Sangho. At the regional level, too, there are bodies from which the central organisation, the Bapuji Gramya Kalyana Samaj, has evolved. It was registered in 1983 and comprises mostly men. The women's organisations have remained confined to the two regions of Mahana and Chandiput*.

In the initial stages, issues were not that important. Getting together was, as it gave the tribals, for the first time, the chance to discuss their problems. And they were regular in attending the meetings. The regional meetings are held on a rotational basis. Each village gets a chance every 20 months or so to host one for which it foots the bill, which essentially means providing meals and the place where the meeting can be held.

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* The NGO's studied so far do not have any coherent ideology on the basis of which they have launched their programmes. The bigger ones concentrate on making specific projects successful and the small ones are involved in conscientisation. PREM seems to be one organisation with a relatively coherent ideology though much of it still needs to be clarified.

Collective Action Programmes

These organisations at the village, regional and central level were a product of adult education sessions and have been responsible for what are known as collective action programmes. They lay emphasis on action. The important thing is to act, not keep discussing. Action leads to reflection which leads to further action which could be more appropriate to the situation. The action may not be suitable but it is important as it serves to educate. No matter what the object of the action, the organisation -- solidarity among the tribals -- is of prime concern. If it gets strengthened then the object that is sought to be attained is considered worthy. But if it weakens the organisation, PREM is not interested in it no matter how attractive the action is to the people.

To take a concrete example, PREM introduced, the savings scheme which was widely appreciated. But there were tribals with small businesses who previously borrowed from money lenders at high interest. They were happy now to have the village fund from which to borrow at a much lower interest. The problem arose when the borrowers did not pay back their loans. Unlike the money lenders, those in charge of managing the village fund were not able to enforce repayment. Quarrels resulted. This led to disunity among the tribals threatening the fragile strength of the organisation they had set up. The scheme was shelved. Though good in principle, it was not suitable at that time.

Making irrigation facilities available was another issue taken up by PREM. Since many tribals owned land, an irrigation project was proposed which would be considered a worthy objective in an area lacking water. In Lanchery, Mohana taluka, Ganjam district, there is a stream on which the village committee decided to put up a small dam from which the water was to be distributed to the villagers.

PREM decided to enable the villagers to secure loans from the bank to construct the irrigation scheme. Then someone raised the issue of the basis on which the water would be shared. Some had ten acres, others 0.5 acres, some no land at all. Those who owned more land would obviously obtain more water, heightening disparities. But the dam was a common project meant to benefit one and all. This showed that the village organisation would not be strengthened and so the project was shelved.*

Thus, only schemes that strengthen the organisation are taken up. Several have proved to be effective in achieving this objective. These include community wells from which all can draw water, trees for common use such as mango, tamarind and coconut with a survival rate of 80 per cent, link roads, and the community goatery in three villages and community piggery in two villages, set up with funds made available by PREM and the State government.

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* Groups like the Gram Gaurav Pratisthan have found other ways out of the predicament. The GGP, which has set up Pani Panchayats, has organised Community lift irrigation schemes where members share water not on the basis of the amount of land they own, but on the basis of persons per family, but no family can get water for more than 2.5 acres.

Involvement in the Biomass Programmes

What some may term failure in afforestation, has to be viewed within this context. Afforestation has never been a major deal with PREM. If it promoted the planting of trees, essentially on a limited scale, it was for reasons other than their ecological or economic importance. For instance, in 1980-81, it encouraged the Scheduled Castes to grow coconut trees, for symbolic reasons. Trees had so far been planted only by Brahmins. The Harijans did not do so for fear that they would suffer for violating nature's law for they had been told that their dharma was to serve. PREM's plan was to demonstrate that nothing would happen to them if they, in this respect, acted like the Brahmins and that they are equal to the Brahmins. PREM distributed 500 coconut and some mango and tamarind trees to various villages to break the Brahmanic tradition. They are now being grown with the help of the common village funds of the tribals. This was meant to help the Harijans to get over the fears and superstitions that had kept them subordinate.

The other reason had a cultural dimension. The tribals being nomadic, growing trees meant that they would "settle" near them as these would yield an income. Which is why tamarind and mango saplings were also distributed to tribals to enable them to begin deriving an income through their produce.

As part of its adult education curriculum, PREM's animators have drawn attention to the importance of forests and the benefits yielded by them in terms of, among other things, forest produce. But initially it did not promote afforestation as such.

It began to take the afforestation programme somewhat more seriously after it assisted the Indian Social Institute, Delhi, in a participatory research project on "Forests, Environment and Forest Dweller Economy in Orissa". The study showed that the contractors, not the tribals, were responsible for the destruction of the forests. The fuelwood that the tribals collected was just sufficient to meet their needs. When the tribals sold fuelwood it was because deforestation by industry had deprived them of their life system and forced them into these destructive practices. The contractors and even the forest corporation, removed teak, sal, pia-sal and gambhari en masse. This mass-scale felling is being conducted to meet the needs of industries some of which have come up recently. Bamboo, as well as other forest species, are being removed to meet the needs of paper mills, three of which have come up recently. These are J.K. Papermills, Raigadh, Koraput district, Choudwar Papermills near Cuttack, and Brajrajnagar Papermills. Huge forest areas have also been cleared for recent units like the MIG factory in Sunnabeda in Koraput district, the hydro-electrical project, Indravati, Koraput district, Harbengi Hydro-electric Project, Ganjam district, the aluminium project, the biggest in Asia, extracting bauxite in Damanjodi, Koraput district etc.

All these projects have displaced the tribals from their habitat and deprived them of the food, medicines, fodder and other necessities that they got from the forest. Their reflection on their situation showed them that the impoverishment that resulted from this displacement and deforestation has forced them into destructive practices such as cutting trees for sale as firewood. Traditionally they had built around the forest a culture that safeguarded it while getting their livelihood from it. Today, however, forests are controlled by industrialists who view them not as a life system, as the

forest dwellers did but as timber and raw material for profit. While these contractors are given control of the forest, the tribals who depend on them for their survival and have protected them for centuries are denied access to its produce.

Community Forestry

From this reflection on their situation arose their need to protect their forests and to begin community forestry projects. However, the founder members are clear that theirs is a people's movement interested in helping the downtrodden and the oppressed to seize power. The tribals and the Scheduled Castes have to work together in this. Afforestation is a relevant issue, but of much greater importance is for the tribals and the Scheduled Castes to share power. In fact, already in the Mohana region the tribals and the Scheduled Castes have influenced the election of about 200 panchayat and block level representatives.

From this understanding of their situation emerged the project for afforestation and forest protection. But these schemes have all along been undermined by the government officials and the dominant castes that control the panchayat and other sources of power and keep the tribals and the Scheduled Castes poor.

Accordingly in 1985 the central organisation of the people, the Bapuji Gramya Kalyana Samaj (BGKS), set up with the help of PREM, took a decision at a meeting, to plant trees on village common lands. Five acres of land have been brought under it. This is meant to function as its nursery. But the social forestry department wants all voluntary organisations to work through the panchayat and taluka level social forestry committees. This is not acceptable to PREM for these bodies are controlled by the higher castes, who oppress the tribals and the Scheduled Castes and are not prepared to let them become self-sufficient.

The second attempt BGKS made has been equally unsuccessful. This was a request to the tehsildar to identify wastelands which the tribals can lease to grow fuel and fruit trees. The tehsildar has asked the BGKS to go through the social forestry department, whose position is already clear. In the circumstances, PREM has sent a proposal to the National Wastelands Development Board, providing survey numbers of plots that have been lying unused for years with a request that it put pressure on the State Government to enable the tribals to bring these under social forestry. But nothing has come of it, since the Board seems to be helpless in these matters.

Forest Protection

That the tribals have not done a good job of protecting the forests either in or around the hills where they live is evident by their denuded condition. The forest around Malipadar is an exception because the tribals of the area have been alert to the benefits it makes available. They have forestalled several efforts to fell it, the latest being the axe of a contractor who had received the permission of the forest department. Brahmin Singh Pradhan, the leader of Malipadar who is also vice-president of BGKS said that this was a

result of the protection provided to it by the tribals since 1970. He admits that other villages hills are denuded because the tribals in those areas have not been convinced about the need to prevent tree felling.

The forest department filed a case against the 22 Khond families of Malipadar for obstructing the contractor. PREM argued before the magistrate that while the tribals were not allowed to remove any trees from the forest even though they had protected it for the last 15 years, how could an outsider be given this privilege.

PREM and the tribals met the conservator of forests and reported the misdeeds of the conniving local forest officials. The conservator over-ruled the earlier decision. Moreover, he allowed the Malipadar tribals to collect fuelwood and minor forest produce from the forest stretching over 100 acres.

Alternative Energy

PREM has helped with two community biogas plants but has not promoted individual biogas plants because it is against individual tribals benefiting, leading to a weakening of the solidarity between them. As for smokeless chulhas, it has not been able to propagate their use, busy as it has been with issues it considers of far greater importance.

Possibilities of Replication

The major difference between PREM and other organisations is its ideological predilection for maintaining the strength of the organisation, the unity of the tribals and the Scheduled Caste community even at the cost of foregoing what may appear to be economic gains. PREM stands apart in another way: the nature of the local animators. If, for some reason or another, the other NGO's withdrew from their respective scenes of operation, their animators, except those chosen from the community, would seek jobs elsewhere. And those selected from the community would not be able to function without the support of the NGO.

But since all the PREM animators are from the community they can settle down amongst the people in the rural areas, if the NGO withdraws. This has apparently occurred with regard to some animators. After leaving PREM they have obtained employment in the community shops, the goatery and piggery. Based on this aspect of PREM's animators, its founders suggest that the village community has skilled people amongst them and hence can repeat projects on their own that they previously took up with PREM's guidance and assistance. This claim can be ascertained only after a much longer stay at the sites where PREM is operating. If it is true, then PREM would be one of the very few voluntary agencies that have built up a cadre that can replicate its programme. The fact that there has not been any turnover of its staff over five years and those who have left have obtained employment within the community itself, would indicate that the claim is at least partially true.

These aspects, together with the fact that the concentration is on the community, not on individuals, makes the project replicable. Afforestation can be an important tool of building solidarity among the people since forests form an integral part of their life. Over centuries they have developed what

is today called a symbiotic relationship with the forests. Today, the vested interests have forced the people to break this relationship. It was essentially a community relationship and social control combined with religious myths and custom ensured that a balance was kept between human and ecological needs. Today, destruction and the consequent shortage has led to competition among the tribals. However, one would think it is not yet too late to regenerate the environment and the community that supported it, both of which have been destroyed by the vested interests.

Another factor that makes such replication possible is women's participation in PREM's activities. They are more interested than men in the programmes, as evidenced by their presence in strength during adult education sessions and village meetings. Their participation has introduced a qualitative change in the life of the community. The Mahila Sanghs are in charge of the cleanliness of the village. In turn, groups of women dump the refuse in the compost pit which thus provides the villagers with manure that is accordingly shared.

The Mahila Sanghas ensure that their children attend school. The attendance rate in PREM's 400 contact villages has gone up from 25 per cent to 80 per cent and in some villages, such as Baliponga, to 100 per cent. Under pressure from the sanghas, government teachers take classes regularly.

The Mahila Sanghas of some villages have contacted the public health centres to send their personnel to give their children the triple antigen vaccination and immunise them against polio, dyptheria and tetanus. Women health workers take care of minor ailments. Like their men, the Mahila Sanghas have introduced their own cultural programmes -- songs, dances, plays -- reflecting their real life situations.

Obviously, there has not been any participation of women in afforestation programmes. This is because PREM itself has not taken these schemes seriously because of the problems mentioned above. However, serious discussion has begun among its women animators on these questions and one sees the possibility of their getting involved in it.

One more important factor is PREM's size and potential. It is a relatively big group with 20 full time animators and has a better infrastructure than Jagarana, NIPDIT, PIPAR and many other voluntary organisations in Orissa, though not as good as that of Gram Vikas. This makes it possible for PREM to support any village community that wants to undertake these programmes, as the success of many other schemes has shown. This requires PREM to better understand the role of these components in its objective of building solidarity among the oppressed. While it has much greater clarity than many other groups concerning its objectives and ideology, one is not certain that it has sufficient knowledge of individual components like land, environment and irrigation and the role they can play in the solidarity-building process.

Against all these advantages lies the major obstruction -- the attitude of the vested interests and the local government officials. Knowing fully well that any solidarity among the poor will weaken their own hold, the dominant castes do everything in their power to sabotage these efforts. Unless these obstacles are overcome, no genuine biomass regeneration is possible. Today, while the State speaks of the need for environmental regeneration, its forces are loaded against the people who alone can make it effective. Unless this situation changes, one cannot expect much positive action.

FAILURE TO MOTIVATE FOR AFFORESTATION
THE PANI PANCHAYAT, PUNE

The 1971-72 drought in Maharashtra resulted in loadshedding and factories in Pune, as elsewhere, had to be shut down two days a week. During such days groups of people belonging to the Forum of Industrial Technologists (an organisation of Small Scale Industrialists) began to visit nearby villages located in Purandhar block. Among them were V.B. Salunke, an engineer who had set up Accurate Engineering Company and his wife Kalpana Salunke, a social worker.

They found that in Purandhar taluka alone 40,000 drought-hit farmers were employed in relief work, nearly all of it involving stone breaking for use to build roads. They wondered whether the Rs. 80,000 being spent in this activity each day could not be put to more productive use.* On enquiring, the farmers told them that they would prefer to build percolation tanks and take to nala-bunding as these would make water available for irrigation.

The Government had no plan for such works. It had not prepared the requisite estimates nor possessed the necessary staff. Mr. and Mrs. Salunke, therefore, contacted some students of engineering colleges and polytechnics who carried out surveys, made provisional estimates and designed the schemes. These were submitted to the Government in 1973.

At this time, Churches Auxiliary for Social Action (CASA), which had begun making wheat and oil available through the Government for food- for- work projects, requested Mr. and Mrs. Salunke to complete the small irrigation schemes it had launched. After the ten percolation tanks (each costing Rs. 1,00,000) had been constructed, they found that the benefits were derived by the farmers located near them; many misused the water for cultivating cash crops. The majority did not gain anything from the tanks.

This was when the Salunke's decided to start an organisation devoted to rural development based on the sharing of scarce water in the area by the entire community. They felt that if it was made available to all the farmers then the whole area would develop.** Thus the Gram Gaurav Pratistan (GGP) was registered as a public trust in 1974.

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* Apparently evidenced of stone relief activities during the 1972 famine can still be found in piles all over the drought-affected region. They constitute no more than 20% of the cost of the road. The Government needs to spend another 80% to build it. Since it does not do so, the stones remain a reminder of its neglect.

** The Accurate Engineering Company of V.B. Salunke is located at 67 Hadapsar Industrial Estate, Pune. The demonstration farm at Gram Gaurav Pratisthan is located in Naigaon, 50 kms. from Pune; another one recently set up for developing nurseries to launch afforestation schemes, is at Kharad, 30 kms. from Pune.

Involvement in the Biomass Programmes

Initially GGP also began to promote animal husbandry and social forestry. But then it realised that unless the farmers could depend on irrigation, the other technologies could not be adopted. Hence, between 1975 and 1978 among other things the GGP also tried sericulture to determine what the farmers wanted. All these projects flopped. In 1976, GGP set aside five acres on its Naigaon farm.* The results have not been impressive. Nearly all the subabul saplings perished; those on the periphery of the farm's percolation tank have not done so badly with the survival rate of 70%

The eucalyptus trees are doing relatively well but the space between them is much greater than necessary. The subabul saplings had been planted alternating with the eucalyptus. The survival rate of Neem, a local species that usually does well, has been only 10%. Other local species have not fared too badly. These include Karanj, Kasid and Chinch (tamarind); Sisam (Dalbergia Sissoo) has survived as well. The local species, according to GGP do better on the light soil (murum or stones beneath no more than 1.5" to 2" cover) to be found over most of Purandhar block than subabul which requires a certain amount of water in the first couple of years. On the whole, the plantation is not one which will encourage the farmers of the region to take to growing trees. And few have cared to.

Another demonstration plot of one acre is at Panibaba Math, Purandhar taluka for which water is obtained from the nearby Jai Malhar Dam. The fruit trees that have been grown - pomegranate, fig, mango, citrus, berries, jamun, banana, tamarind, coconut - are doing reasonably well. On the periphery, fuelwood and timber species - casuarina, eucalyptus, subabul and sal - have been planted.

Unlike the Naigaon plantation that has had to do only with rain water, the one at Panibaba Math has been regularly supplied with water from the dam. And this accounts for its better look.

The farmers are not impressed by it. In any case they have not taken to farm forestry as was expected. The GGP has tried to encourage them to plant trees by providing them with free saplings. Wherever community lift irrigation schemes have been initiated with its help, it has given about 2,000 saplings to the 10-15 farmers involved, to grow on the boundaries of their fields and encouraged them to even devote a part of their land to them. Most saplings have perished within a year. They die for want of minimal care.

Some farmers do not appear to be aware that fuelwood and timber trees can fetch good returns. Those who are, maintained that they require water which they would rather use for growing crops. To the argument that the trees would need less water and labour than the cultivation of crops, the farmers maintain that this point has to be demonstrated. Obviously, the GGP's efforts have not convinced them of the financial viability of trees. They asked for an assurance that if they cultivated trees, the Government would buy them after these have matured, to ensure that they do not incur a loss.

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* This makes it among the first few organisations to promote afforestation. The BCT did so in 1978, the BAIF in 1972. Most NGOs have launched social forestry during the last two to three years.

Most of the farmers of the region belong to the dominant Maratha caste. Unlike Harijans and tribals who have readily taken to growing trees at the behest of the NGOs working with them, the GGP is finding it hard to similarly motivate the Marathas. If they accepted tree plantation as a viable proposition, other communities in the area would probably follow suit.

The GGP has so far concentrated on lift irrigation schemes. Now that these have become a success, it has made an earnest effort to promote afforestation. It feels that the tree plantation drive amongst cultivators and its demonstration plots would not have been failures if it had devoted more attention to them. Even the tree nurseries it started have since amounted to nothing.

The GGP is not keen on promoting the well-known, fast-growing varieties such as subabul and eucalyptus as its experience has proved that they require a certain amount of water, at least during the initial years, which the farmers will not be willing to spare. It would rather go in for the hardy varieties which have done well in the area such as the traditional species of acacia, in the north referred to as Kikar, sisam (Dalbergia Sissoo), neem or limbara (azadirachta indica), maharuk (used for making packing cases) and Karanj (provides oil and cake used as fertiliser). Not all these trees are fast growing. In the event the farmers may not accept them.

Across the Kutcha road from the Panibaba Math plantation, the GGP has put up Karanj trees on an acre-and-a-half of government land.* Most ot the saplings have survived. They have done so entirely on rain water. Subabul saplings could not have come up only on it. The GGP will experiment with the local hardy varieties on its 100 acre Kharad farm. It will also plant trees on the hills around the farm that belong to the Forest Department.

A major component of any afforestation programme is acquisition of land on which it can be implemented. The BCT has solved this problem by leasing land from the Government. CROSS Sangams have been buying the wasteland, Gram Vikas has been using village common lands. BCT/CROSS/Gram Vikas have also encouraged farm forestry. Gram Gaurav Pratisthan so far does not appear to have formulated its land policy: Will it concentrate on encouraging farmers to plant trees on the lands of farmers who have formed the community irrigation schemes? The former method has been tried already without much success, and as for the Forest Department, it seems to be apathetic, if not antagonistic, to the GGP. Most of the people taking advantage of the irrigation schemes live in hamlets which do not possess village common lands on which afforestation can be attempted. There are composite villages too where several schemes have been launched. Naigaon, for instance, has common land even for the Harijans known as Maharwatan. They have had 85 acres of wasteland lying vacant for centuries. It was land donated to the Mahars for services rendered to the King. The GGP could possibly organise the Mahars to plant trees on it. But this too presents problems for many owners of the 85 acre plot have gone elsewhere to seek a livelihood. According to a GGP survey, there are about 10,000 people from Purandhar block alone working in

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* Since then, the GGP has discovered that part of the land belongs to private parties.

various textile mills in Bombay many of whom can be found in the Saitan Chowki area living in filthy cramped quarters known as "galas". So those that remain in Naigaon do not have total claims on the 85 acre plot. To plant trees on it would require the permission of the absentee owners. A few of them have returned as a result of V.B. Salunke's persuasion and they are an enlightened lot aware of the importance of afforestation. N.M. Patole, who was employed with BEST on a salary of Rs. 1,200, apart from his claims on Maharwatam owns five more acres of land, one of which is irrigated through the Mahtma Phule community scheme of the Harijans of Naigaon. Though in the irrigated land he has grown groundnut, onion and gram, the returns from his holding are low. He is willing to plant trees on his entire five acre plot with GGP's help. If successful it could well have a demonstration effect that GGP's earlier efforts at its 40 acre Naigaon farm to have failed.

GGP emphasises that the success of its experiments will depend on the Forest Department. Till now, the Forest Department has been anything but helpful. Not only has it not cared to help out with saplings, but it creates stumbling blocks for the GGP. Invariably when it has gone with tree plantation schemes to the Forest Department, before giving clearance, it persists with obtaining guarantees about GGP's ability to secure the requisite land and water. It has not cared to offer land under its own charge, much of it lying barren.

Other government departments have been no more forthcoming. The GGP offered to plant saplings in and around the Irrigation Department's housing colony on the side of the Jai Malhar dam free of charge. The department turned down its offer.

There is acute shortage of firewood. The women have to spend half a day on collecting it, each family requiring five kg. daily. The men, aware of the hardship faced by them, seem to accept it as a natural condition. They do not think it necessary to plant firewood trees to reduce the burden on their womenfolk. As they do not have to pay for the firewood, they could not be bothered to make it easily accessible so that their wives have more time to devote to their children and other domestic issues.

This also explains why they have not thought of biogas plants. Neither has the GGP bothered to promote them. Most families are too poor to afford biogas plants. But to GGP's way of thinking, water is the foremost need of the residents of Purandhar area. If they are provided with water, all other benefits will follow. For this would lead to higher agricultural productivity, more income, which in turn would enable the farmers to acquire more animals and thus afford biogas plants and go in for improved chulhas.

Pani Panchayats

As a result, today the core area of activity of the GGP is the organisation of community lift irrigation schemes whose success has enabled it to make a go at afforestation. Its priority thus has been equitable distribution of water so that more farmers can spring out of the poverty trap.

As mentioned earlier, when it was observed that percolation tanks enabled only the enterprising few to secure water from it, especially those whose fields were close to it, the GGP decided to put up pumps that would lift the water so that farmers located at a distance could also irrigate their farms. Those who secured a share of the water from the irrigation scheme would jointly own it. But they would all have to follow certain basic principles (i) 20% of the cost of the irrigation scheme would be borne by the beneficiaries, (ii) cultivation of the sugarcane was forbidden, (iii) the land could be sold, not the share of water provided to the member of the community irrigation schemes - water rights are for cultivation not speculation, (iv) water would be provided according to the number of family members - half an acre for each person - and not on the basis of the size of the holding. For, at present, those who have more land invariably corner most of the canal water or that made available through other forms of irrigation, thus widening income disparities in the rural area.

This is the crucial condition that alters the balance of what has been termed as the "refraction effect", i.e., technology inputs (in the rural areas) tend to benefit the well off and thus instead of enabling the poor to catch up with the rich, the former remain where they are while the rich get richer. According to Ward Morehouse, Chairman of the Intermediate Technology Development Group of North America, GGP was attempting to defy the effect through the Pani Panchayats.

In 1972, when the first lift irrigation set was provided, the cost of irrigating one acre was Rs. 1,000 to Rs. 1,5000. Now it is between Rs. 3,000 to Rs. 5,000 per acre. The schemes cover from 15 to 60 acres. There are a few of 100 acres and one of 200 acres. The GGP finds 60 acre schemes to be the most easily manageable. Usually, the schemes have pumps of 10-20 horsepower. A ten horsepower Kirloskar pump costs Rs. 7,000, 15-20 horsepower at Rs. 12,500. The pump accounts for 20% of the cost of irrigation scheme, the P.V.C. pipes from the pumps to the field 60%, labour charges and technical advice and execution of the scheme account for the remaining 20%.

So far about Rs. 50 lakhs have been spent on 48 lift irrigation schemes. Swiss-aid and EZE have contributed about Rs. 20 lakhs, the government Rs. 15-16 lakhs and the rest has to be paid by the beneficiaries. Another 12 are under construction. All these schemes have been set up since 1978.

The first two that were set up in 1972 did not stipulate the 20% contribution by the farmers. They were merely asked to pay the water charges. They took the water, but never paid the charges, because they did not feel it was their scheme. At that time, it was being managed entirely by the GGP. Leadership and factional problems, along with failure of the rains, made it difficult to collect the water charges.

The revised scheme that GGP launched made the beneficiaries responsible for managing it. The 15-20 farmer-members elected a leader and a committee

who took the day-to-day decisions on all issues related to the scheme and appointed one person to distribute the water. The scheme managed in this fashion has come to be known as the Pani Panchayat.

Until a couple of years ago, the funding formula was 20:40:40 - 20% contributed by the beneficiaries, 40% by the government and another 40% by the GGP (through grants it gets from foreign agencies). The government's 40% was a grant, whereas the GGP's was a long-term loan. Since 1983, the government has withdrawn the grant. The GGP has raised the farmers' contribution to 30%. It meets 70% of the cost of the scheme through a long-term loan to them. The farmers have raised their production manifold and diversified to several crops including vegatables, fruits and flowers.

Of the 67 members of the Jai Malhar irrigation scheme of Dhalewadi village, Purandhar block (which was started in 1980 and completed the following year at a cost of Rs. 2 lakhs) 35 are Marathas, 30 are malis (gardener), two sutars and a dangar (shepherd). The underground pipe from the Jal Malhar dam is 7,000 feet long, ten inches in diameter. It irrigates 100 acres. The Jatja Pramukh, Jaggannath Musku Savale is a mali; Out of his land of five acres, 2.5 are irrigated under the scheme. Whereas formerly he grew two crops a year, jowar and bajra, he now grows gram and wheat and vegetables like onion, tomatoes, brinjal as well as chillies. His main cash crop is flowers, marigolds in the main, which he sells at Rs. 5 per kg. They are taken from the nearby station of Hejuri to Bombay.

In some villages there is more than one scheme. In Naigaon village, eight lift irrigation schemes are operating. Two belong to the Harijan and six to the Maratha community. Ninety five per cent of the lift irrigation schemes are confined to Purandhar block of Pune district. A few have been set up in a couple of other districts. Farmers from Gujarat and West Bengal have also come to learn from GGP on how to set up similar schemes. The majority of the schemes in Purandhar taluka are dominated or run by the Marathas. The Rajouri Village Indira Community scheme has 39 members, all Marathas. One of the members said that his income from his land had shot up four times since irrigation became available in 1981. He grows 500 trees of custard apple which fetch him the maximum returns. Dinkar Kolte of Babawadi hamlet, who used to get Rs. 50 per acre before the community irrigation scheme was set up, now gets Rs. 8,000 an acre. His main cash crop is onions which he takes by truck to Bombay, Bangalore and Madras.

Despite the increase in farmers' income, they have not been prompt about the repayment of loans taken from the GGP. So far, out of the 50 irrigation schemes completed, only those belonging to two have paid back their loan. One such is at Pilanwadi hamlet, set up at a cost of Rs. 1.5 lakhs. Its striking feature is that it makes water available for 12 months a year which is pumped up from the minor irrigation tanks.* This is probably why the members were able to repay the loans. The farmer, who prior to the schemes got Rs. 25,000 to Rs. 30,000 from his land, now gets Rs. 1,50,000.

The landscape, where the community irrigation schemes have been set up, has changed considerably. At Pilanwadi, which is somewhat of an exception, many trees can be seen bordering the fields - mango and banana trees, and even

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* Only six of the 50 schemes provide permanent irrigation. Most provide water for no more than eight months in the year.

a drumstick tree. Before irrigation, trees were not visible in the area. Pilanwadi also now boasts of a few orchards.*

Previously 50-60% of the population of Pilanwadi migrated for five to six months, usually to work for farmers in the canal irrigated areas to cut sugar cane; now they have round the year employment on their fields. This is true of most areas where community irrigation schemes have been set up.

The schemes, however, are not proceeding at the desired pace because of certain problems, the major one being obtaining power to operate them. According to its initial plans, the GGP intended to cover all the 100 villages of Purandhar taluka under 600 minor community irrigation schemes bringing under irrigation 25,000 acres at an outlay of Rs. 10 crores between 1980 and 1985. This plan has since been shelved.

The Electricity Department makes power available only to those schemes which are likely to provide it with a reasonable return on revenue (RR as it is called). And in many cases, it delays the provision of electricity to the pump for years. The scheme at Shindwadi hamlet with 130 members, supposed to irrigate 150 acres is among the largest. It was started in 1980, completed a year later but has yet to go into operation for want of electricity. The farmers have tried everything in their power to persuade the Electricity Department to provide power. In 1983, they performed an andolan in front of the office and spent seven days in jail, but to no avail. The residents of Dalewadi hamlet whose scheme was completed in 1981 did not receive electricity till 1985, denying them higher revenue for four years.

The Electricity department's approach may be primarily responsible for the GGP's intention to lay less emphasis on community irrigation schemes and turn to the promotion of afforestation. The fact remains that these schemes have been responsible for converting near wasteland, or land on which hardly any crops grew, into productive assets. Farmers receiving water now irrigate their entire holding instead of leaving much of it untouched by the plough.

The technical and other advice related to securing government sanction to manage the scheme is provided by GGP staff which in 1983, when it was being implemented with vigour, numbered around 20. Now no more than five are left. This does not include five people who have been managing the farm.

Decision-making Process

The collective lift irrigation schemes are democratic institutions. The committees appointed by them are the decision-making bodies. The committee is authorised to act on behalf of the members of the general body meeting. Discussions at the general body meetings essentially involve issues related to water sharing and the committee takes the necessary action to implement the collective decision(s) arrived at among them.

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* Another striking change that community irrigation schemes have introduced is electricity in villages. It would have been provided, but in due course: Maybe ten years later. But thanks to power being made available for the lift irrigation, it has been extended to the village and from there to other nearby villages.

To take an example, one of the members of the Indira Community Scheme, Baban Rao, sold the rights to his share of the water to Vithal Bhagat for Rs. 24,000 (The cost of irrigating an acre in that region is Rs. 2,000). The members decided, as per the rules of the scheme, that Baban Rao could sell his land but had no right to enter into a commercial transaction with regard to the water which belonged to the community. The committee was asked to expel him if he did not conform to the rule in the event Baban Rao relented.

The schemes have led to a greater concern among the residents of the village for members of other castes. There are four proposed Pani Panchayats at Rahouri village. But apart from the Indira irrigation scheme which belongs to the Marathas, the three others belonging to the dongars (shepherds) have not been sanctioned the electricity connections. The members of the Indira scheme have expressed their solidarity with the dongars by performing satyagraha in front of the Nagpur Electricity Office.

In Naigaon, now, thanks to the network of community participation generated by the schemes, the Harijans (Mahars) mingle easily with the Marathas. They have been known to even eat at each other's place, something not even thought of a few years ago.

But despite this apparent solidarity, the GGP has not been able to collectively motivate them, (as say the BCT or CROSS or Gram Vikas have done) to take to social or farm forestry. One obvious difference is that the GGP works with members of several communities in the village whereas the BCT and CROSS works essentially among the Harijans and Gram Vikas with the tribals. It seems that one cohesive community is easier to motivate than different castes of a village with varied perceptions of their interests.

Women's Participation

The women have benefitted much from the prosperity that irrigation has engendered. They no longer have to leave their homes to seek employment in other areas as they once did. Their children are now encouraged to pursue studies in the schools. Women have even become members of the community lift irrigation schemes. In the case of the Indira scheme, a woman, Vithabai Wamanrao Bhagat, has been made its gatha pramukh (the leader). She has involved the women of her area in various activities. But as she is the first to admit, the Maratha women have been suppressed by their men for centuries and remain withdrawn. They have little say in family affairs, let alone those of the community. Which explains why, despite their newfound prosperity, they have to tramp all over the barren countryside everyday to collect fuelwood. The Marathas have not cared to plant fuelwood trees on their land.

Conclusion

The eagerness with which the people have come forward to take to irrigation schemes, that they are managing on their own, indicates that replication of such projects, if the State Electricity Board does not create hurdles, will not be difficult. The same cannot be said of social forestry projects. The Marathas, the dominant community in the region, have to be motivated to take to trees, and if they do, other communities will follow

suit. But, they have been spoilt. They want the Government to fulfill several conditions before they plant trees. It may thus be a long time before the community in this region will take to this form of reclaiming wasteland, or near wasteland.

TRIBAL IDENTITY AROUND THE FOREST
KASHTAKARI SANGHATANA, MAHARASHTRA

Between 1983 and 1986, the Kashtakari Sanghatana, in the Dahanu taluka of Marashtra has been among the more successful groups in the country as far as afforestation is concerned. Every year, Warli tribals from over 30 villages have planted trees on a few hectares. The trees they plant are of the type they need such as fruits, fodder and fuel. In other words, they have turned it into community forestry. Even in such a scheme, there has been the involvement of the whole tribal community, i.e., both men and women.

On the other hand, there has been resistance from the vested interests. Every year the people have to struggle to get more land, though there are several hectares of wasteland near every village. They struggle and get these lands and in many cases even succeed in getting the seedlings from the Forest Department.

Consequently, instead of going into the details of the scheme itself, in this paper we shall study the background of the struggle and the process that has resulted in a successful plantation programme. It is successful not merely because several thousand saplings are planted and protected every year, but above all because the tribals themselves control the scheme.

Background of Voluntary Organisation

Kashtakari Sanghatana (KS) is based in the adivasi belt of Dahanu Taluka, Thane district in Maharashtra. The adivasis belonging to the Warli tribe have gone through many upheavals and struggles of resistance and revolt. But these have been sporadic and in isolation, resulting in their being suppressed time and again.

But the advent of Godutai and Shamrao Parulekar with their Marxist ideological base, began the process of change when the first Maharashtra Kisan Conference took place at Titwala, a small town in Thane district.

The leadership of Godutai and Dhamrao helped the adivasis to come together and realise their potential. This was during the mid-forties and the people continued to stage struggles which stretched over a decade. As a result of the struggle, the Kisan Sabha emerged as the leading body. But it functioned like any other trade union, controlled by leaders from outside and slowly their militant power began to wear off. In fact, the decline started because of lack of any proper local cadre with a theoretical perspective. As a result, not many leaders emerged to support and develop the struggle.

So, over the years, the militant Warli withdrew slowly back into a state of indifference and inactivity. Consequently, a culture of dominance-subservience developed. This was manifested in:

1. Low wages of labour.
2. Low prices for agricultural produce.
3. Exploitation of women.

In the late seventies, Pradeep Prabhu came to Dahanu to work on the lines of Paulo Fraire. His main interest was Adult Education but contacts with the people made him change his approach. His main aim now was to develop a process of politicisation for the youth who had remained passive about their rights. Pradeep was joined by Nicky Cordozo. The years 1977 and 1978 were spent in contacting young people and trying to awaken them.

The end of 1978 saw the group of adivasi men and volunteers from outside coming together to form a group called Kashtakari Sanghatana (KS). It was a left-oriented organisation for peasants. In January 1979, the KS was present in well over 20 hamlets in Dahanu and Talasari talukas. The message of the organisation in the form of its tasks and role is as follows:

1. In the face of the growing stranglehold of capitalism and imperialism over the Indian nation, resulting in increasing poverty and a rapid deterioration of human rights the only democratic right available to the poor is the right to struggle. Such a struggle would be the means to establish their other rights.

2. The struggle of the Sanghatana was one small part of the wider class struggle. This Sanghatana, therefore, would have to relate itself to the ongoing struggle of the proletariat and merge in it. In this process, its own limited struggle, as part of the ongoing struggle, would have to address itself to the task of the revolution and the establishment of a socialist society.

3. The role of activists would be to awaken and nurture the involvement of the people in a process of political education. The goal being a heightened awareness of their historical task and a greater consciousness of their collective responsibility to act as deliberate subjects of their own history. The involvement of the activist would imply a conscious effort to develop responsibility and accountability of local leadership in democratic decision making and collective action in the struggle. In their involvement they would lay the foundation for real egalitarian relationships.

4. The activist would depend totally on the people for his food, shelter and protection, and in so doing, develop the consciousness of interdependence and cooperation as essential to sustain the struggle. His main work is involving the men and women of the tribe in political education.

The approach was to create a forum that people sought for the expression of their grievances and the search for redressal. This was done through discussion with the villagers, the strategy being to talk, think and decide on the role of the adivasi.

Nature of Work

The main work of KS is with the Warli tribal peasants, both men and women. The initial work was to discuss the vulnerability of the adivasi - whether to the middlemen coming from outside or their agents in their own tribe. Being in the firm grip of the exploiters (merchants, contractors, landlords), the adivasis were incapable of fulfilling their daily needs. This was the result of their indebtedness. Payment of loans was mainly in kind -

paddy, grass, agricultural produce and labour. Land was kept as a collateral and the interest rate was as high as 300 to 1,200%. Hence for all practical purposes it was lost to the moneylender.

The discussions helped them to clear old doubts, raise new questions and find a direction and purpose in their struggle for survival. It aroused a new challenge. The first step towards freedom was seen as joining hands by coming together and fighting domination. Actions, many spontaneous, many planned were undertaken to remove economic grievances. These steps were also viewed as part of the larger struggle against exploitation and domination. The struggle was first of all against the oppresors (moneylenders, landlords) and secondly, to form cooperatives in the community. Many violent incidents took place when the adivasis raised their voice against the shopkeeprs. But the struggle had its effect. They realised that they no longer needed the help of the shopkeepers in any form.

Women took an active part and were responsible more than once for confronting the shopkeepers. The results was that money extorted in high prices and unpaid wages was recovered from them. Moneylenders were penalised for assaulting women. Above all, the felling of trees was promptly terminated. Many villagers, therefore, organised themselves into action committees and acted to resolve their own problems and to protect their forest. Marches took place, village meetings, people's courts, summary trials, fines and apologies gained momentum. In other words, the struggle also gave notice of women's power. In many instances, they took the initiative to lead. Oftener than not, their resistance was to the forest officials. For example, in village Shiane, women courageously resisted the advances made by the forest officials. They also resisted their intimidatory tactics and took merciless beating from the police in the middle of the night. In village Saiwan, women fought and released a villager arrested on a fictitious charge.

Many such fights could be cited where women openly defied the exploiters. In fact, the involvement and militancy of women became a challenge to their own men. Women openly discussed in the meetings their situation in the family and brought about several changes. The fight against outsiders also helped them to realise their true worth and they used it as a basis to see and fight domination from within. Repression from three quarters, namely, the police, the politicians, and exploiters created tension and setback. But it also helped to season the committed cadre. It also brought to them the awareness of the need for power equation and motivation for further mobilisation and growth. Side by side, local solutions were sought for local problems. Committees were formed to look into the inner problems and to hasten the resolution of village conflicts. These Committees were responsible for the whole village.

Redefining Relationship with the Forest

It is a common fact that the adivasi is very much dependent on the forest. He needs it for his survival, for fodder, food and fuel. Colonisation and commercial values have posed a threat to the existence of the tribals. Valuable timber forests have been destroyed by the vested interests and replaced by teak which has no use for the adivasi or for the birds and animals that have thrived in these forests and have provided nutrition to the

inhabitants. The adivasi became an alien in his own home. The rent collectors (Jahagirdars) doubled as moneylenders and ended as landlords. The adivasis who were the rightful owners became tenants and landless labourers. This only increased the dependence of the tribals on the forest and they began to encroach on forest land. This was declared illegal by the authorities. Hence, in their struggle to retain and establish their links with the environment and against alienation, the adivasis indentified five major issues:

1. Regularisation of encroachments.
2. Save the forest conference.
3. Establishment of the right to timber for housing.
4. A change in the Indian Forest Act.
5. Demand for Social Forestry and integrated forest development suited to the needs of the people.

The KS, Bhumisena and Shramik Sanghatana, met at Talasari in June 1979 to launch an agitation to regularise encroachments. It resulted in the Sabran Zot Andolan Kriti Samiti (Action Committee for Encroachments) which took up the coordination of the struggle all over Maharashtra. An action plan was decided upon when five villages in five different areas were to take to plantation on degraded lands and plant trees. But this could not be implemented because the Forest Department did not have land for them. Villagers who had vacant land would take to plantation of trees, for both hard-wood and for fruit. In the first year, they asked for 25,000 saplings for this purpose from the Forest Department. But no saplings were provided though the indent was placed in time. The Forest Department could not accede to the request of a community that was struggling against vested interests and was trying to free itself from exploitation.

Conclusion

One can see from the experience of Kashtakari Sanghatana that to the tribals the forest is a life system. Merely looking at it as income and revenue can only benefit the middlemen and commercial-industrial elements that exploit the tribals and lead to their impoverishment. It is the effort to revive the link with the forest (that had been lost through industrial intervention), that has led to this successful programme. Afforestation has thus become a mode of genuine community organisation among the tribals or to be exact, of the regeneration of the tribal community.

It is precisely because of the empowerment of an exploited community that the vested interests and the forest and other officials have not given them any support. In other words, official support is forthcoming as long as afforestation remains only an income-generating programme. But the experience of Kashtakari Sanghatana, as well as that of others, like PREM in Orissa, shows that if it becomes a part of the process of community building among the oppressed groups, all official support disappears. The people have to get this support through another struggle.

PROFESSIONAL PROFILES IN SOCIAL FORESTRY

- A Limited Survey -

Rashmi De Roy

Thomas Mathew

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PART I

BACKGROUND AND SCOPE OF SURVEY

This survey of professional (non-governmental and governmental) groups with expertise/accomplishment in the field of Social Forestry/Wasteland Development (SF/WD) has been carried out as a preparatory input to a UNDP sponsored Consultation held in Bangalore in September 1986. The Consultation is to bring together a large cross section of Indian NOGs involved in Social Forestry, besides representatives of the Central and State Governmental organisations involved in Social Forestry, besides representatives of the Central and State Governments, aid/donor agencies and UN bodies, to examine ways in which NGO contributions in this field could be further facilitated and supported.

This survey of selected professional groups (P Groups) and official agencies (O Agencies) other than the Forest Departments, was carried out by a team of researchers coordinated by the ENVIRONMENT SERVICES GROUP, WORLD WILDLIFE FUND-INDIA. The present survey whose scope is indicated below was financially supported by the UNDP. It built upon the information gathered in the course of a study immediately preceding this one which was supported by the OXFAM (INDIA) TRUST.

The survey required the "profiling" of the structure, functioning and perceptions of representative professional NGOs and official agencies who had the technical capability to assist grassroots voluntary agencies (NGOs) to carry out Social Forestry/Wasteland Development related work.

The ESG team gathered information through interviews, site visits, questionnaires and literature survey on 24 P Groups and five O Agencies. Due to the varying degrees of cooperation received from the Groups/Agencies, the quality of information presented varies. However the purpose of the survey was not merely to profile the work of each body but also to learn from its experience about the constraints and opportunities facing Social Forestry/Wasteland Development work by grassroots NGOs supported by professional bodies.

The choice of P Groups for study was made on an empirical basis after consultations with the project sponsors and with some P Group representatives. The primary aim in the selection was not "geographical representativeness". Groups were selected to ensure coverage of all possible types of such bodies from "one-man-shows" to large,decentralised rural development out-fits; from the simple social work groups to the research, development and application groups; from those with ample foreign funding to those dependent solely on Indian resources. This study does not do justice to all the facets of the work of these bodies and their linkages with communities and NGOs. But it attempts to draw upon some of the experience in the course of eliciting and collating information on their involvements in Social Forestry.

Listed below are the names and addresses of the P Groups and O Agencies studied. Names of contact persons are indicated. Such persons were not necessarily among the people (P Group/O Agency representatives) interviewed by the ESG team.

PROFESSIONAL GROUPS

1. Society for Promotion of Wastelands Development (SPWD),
   Sucheta Bhawan Annexe,
   11-A, Vishnu Digambar Marg,
   (Off Deen Dayal Upadhyaya Marg),
   New Delhi 110 002
   Contact Person
   V.B. Eswaran
   Executive Director

2. Action for Food Production (AFPRO)
   25/1A, Institutional Area,
   Pankha Road, D-Block,
   Janakpuri,
   New Delhi 110 058
   Contact Person
   J.B. Singh
   Executive Director

3. Bharat Forestry Consultancy- Bhopal (BFC-Bhopal),
   156/A,Indrapuri,
   Bhopal 462 022
   Madhya Pradesh
   Contact Person
   S.S.Chitwadgi
   Executive Director

4. Ranchi Consortium on Community Forestry (RCCF)
   4, Bariatu Road, Bakshi Compound,
   Ranchi 834 008
   Bihar
   Contact Person
   S.K.Bakshi
   Secretary

5. Kasturbagram Krishi Kshetra (KKK)
   Kasturba Gandhi National Memorial Trust,
   P.O. Kasturbagram,
   District Indore 452 020
   Madhya Pradesh
   Contact Person
   Govindan Kutty Menon
   Director

6. Community Action for Development (CAD)
   1/50, Alankuppam Village
   (Near Ambur),
   North Arcot District,
   Tamil Nadu 635 814
   Contact Person
   Narayana Murthy (Nani)
   Chairman

7. Population and Environmental Education Centre (PEEC)
P.O.Velgode
District Kurnool,
Andhra Pradesh 518 533
Contact Person
Dr. R.R. Swamy
Director

8. Comprehensive Rural Operations Service Society (CROSS)
1-69 Snehapuri,
Nacharam
Hyderabad 501 507
Andhra Pradesh
Contact Person
M. Kurian
Executive Director

9. The Bhagavatula Charitable Trust (BCT),
Orugantivari Street,
Yellamanchili 531 055
District Visakhapatnam
Andhra Pradesh
Contact Person
Dr. B.V. Parmeshwara Rao
Secretary and Chief Executive

10. MYRADA
49, Richmond Road,
Bangalore 560 025
Karnataka
Contact Person
Aloysius Fernandez
Director

11. Auroville Land Service/Forest Group,
Auroville Trust,
P.O.Kottakuppam
Tamil Nadu 605 104
Contact Person
Peter Clarence-Smith

12. The Bharatiya Agro Industries Foundation (BAIF)
"Kamdhenu"
Senapati Bapat Marg,
Pune 411 016
Maharashtra
Contact Person
Dr.Manibhai Desai
Managing Director & Trustee

13. VIKSAT,Wasteland Development Group
Thaltej Tekra,
Ahmedabad 380 054,
Gujarat
Contact Person
Kartikeya Sarabhai
Director

14. Action for Agricultural Renewal in Maharashtra (AFARM)
3-C, Shankarshet Road,
Pune 411 002
Maharashtra
Contact Person
Dr. S.T. Gujar
Chairman

15. Jivrajbhai Patel Agro-forestry Centre (JAFC)
Surendrabag-Kardej,
District Bhavanagar,
Gujarat 364 061
Contact Person
V.J.Patel
Director

16. Gram Vikas (GV-O)
P.O.Mohunda,
Via Berhampur,
Orissa 760 002
Contact Person
Joe Madiath
Director

17. Professional Assistance For Development
Action (PRADAN)
250-G, DDA MIG Flats,
Rajouri Garden
New Delhi 110 027
Contact Person
Vijay Mahajan
Executive Director

18. International Forestry Consultancy (IFC),
171 VI Cross, Gandhinagar,
Bangalore 560 009
Karnataka
Contact Person
Y.M.L. Sharma

19. Krishnamurthi International Agricultural
Development Foundation (KIADF)
No.8,S.R.P.Colony,
Cross Road No.2,
Coimbatore 641 001
Tamil Nadu

20. Trees For Life (TFL)
1103 Jefferson,
Wichita,KS 67203
USA
Contact Person
Balbir Mathur
President and Executive Director

21. Utthan-Mahiti Team (MAHITI)
83/387, Saraswati Nagar,
Near Himmatlal Park,
Ahmedabad 380 015
Gujarat
Contact Person
Nafisa Barot

22. Nehru Yuvak Kendra (NYK)
30, E.C.Road,
Dehra Dun
Uttar Pradesh
Contact Person
Avdesh Kaushal
Coordinator

23. Gram Vikas (GV-K),
Honnsetthalli,
P.O. Yelagondahalli 563 127
District Kolar
Karnataka
Contact Person
Raj Iyer
Project Leader

24. The Behavioural Science Centre (BSC)
St.Xavier's College,
Ahmedabad 380 009
Gujarat
Contact Person
Director

OFFICIAL AGENCIES

1. Central Soil and Water Conservation
Research and Training Institute (CSWCRTI)
218, Kaulagarh Road,
Dehra Dun 248 195
Uttar Pradesh
Contact Person
Dr. V.V. Dhruva Narayana,
Director

2. Division of Agriculture Extension, IARI,
IARI Campus,
New Delhi 110 012
Contact Persons
Dr. Kataria
Head, Production Division
Dr. B.P. Sinha
Head, Training and Extension

3. 127 Infantry Battalion (TA)-Ecological
(Eco Task Force)
Kurukshetra Marg,
Dehra Dun Cantonment,
Dehra Dun
Uttar Pradesh
Contact Person
Commanding Officer

4. Forest Research Institute and Colleges
(FRI&C)
Chakrata Road
Dehra Dun
Uttar Pradesh
Contact Persons
Dr. R.V. Singh
President
Shri. G.P. Maithani
Director, Silviculture Research

5. All India Soil and Landuse Survey
(AISLS),
IARI Buildings,
New Delhi 110 012
Contact Person
Dr. R.L. Karale
Project Director

PART II

SOCIAL FORESTRY: THE BACKGROUND

Social Forestry in India

The programme received an official footing following the report of the National Commission on Agriculture (1976). Social Forestry was intended originally to develop tree plantations to meet the fuelwood, fodder and small timber needs of rural households. It comprised farm forestry and extension forestry. Farm forestry involved encouraging farmers to plant trees on their own lands (including bunds/boundaries of their fields) through distribution of free or subsidised seedlings. Extension forestry involved development of woodlots on public lands i.e. on roadsides, on canal banks, along railway lines, on wastelands by the Forest Department. Also included under the term extension forestry were community plantations developed on common village lands, wastelands, by village communities themselves with the produce (in some cases) being shared by the communities and the Forest Department.

In an attempt to foster a second Green Revolution, the Government took a number of policy plan measures to support Social Forestry:

- The financial outlay for forestry was substantially increased in the Sixth Plan.

- The Ministry of Agriculture prepared (1983-84) a national project to extend Social Forestry to all parts of the country.

- Forest Departments in most States set up special SocialForestry wings.

- A number of State Governments initiated elaborate Social Forestry schemes,several of them to receive generous funding from foreign aid agencies including the World Bank, USAID,CIDA and SIDA.

- The National Rural Employment Programme (NREP) and the Integrated Rural Development Programme (IRDP) were linked to Social Forestry schemes in rural areas.

Official statistics have it that since 1980-81 over 1,000 crore seedlings have been distributed and planted, and an additional 1.2 million hectares of plantations have been raised under various Social Forestry programmes. Social Forestry wings of Forest Departments had hoped (pre-Wastelands Development Programme) to bring some 1.93 million hectares under the scheme by 1988.

Despite these claims there is widespread agreement at the official and non-official levels that the Social Forestry Programme has been hijacked to serve various commercial interests leaving the original beneficiaries- the landless, small and marginal farmers - high and dry. The actual beneficiaries have been the Forest Department (with their inflated budgets), the pulp and paper mills and the rich landed farmers.

Reasons for Limited Success of Social Forestry Programme

The general image of Social Forestry programmes is that of a wood production and marketing operation in which the subsidies have been perverted to support lucrative cash cropping by the landed rich. Wood from such schemes has catered largely to the accelerating demand from industrial and urban sources (urban fuelwood, building poles, pulp). According to an FAO estimate, the total area planted for industrial purposes amounted to 69% (74% after correction for estimated survival rates) at the end of 1980. That it has largely benefited the big, landed farmers is obvious from the fact that farm forestry has done well in most states (especially Gujarat and UP.) whereas achievements in community forestry have been far below the targeted levels. Seedlings sold or distributed by the Social Forestry wings of the Forest Departments have been cornered by large farmers due to the inherent advantages they have in raising successful tree plantations (e.g. access to irrigation facilities).

Social Forestry schemes, as they have evolved, have led to the reduction of rural employment and to fostering absentee landlordism. In some areas prime agricultural land has been converted to acreage under fast-growing tree crops to feed the urban-industrial demand and has lead to reduced areas under food crops. The switch to tree farming has in places even exacerbated local fuel shortages as farm labour has been denied even crop residues for firewood. It is quite obvious then that many regional Social Forestry targets were achieved merely by Forest Departments working with "progressive" farmers on their productive lands. But the overall community involvement with emphasis on the poor and marginal farmer has been minimal. It is not surprising therefore that the Forest Department staff have not had much success in winning the confidence of such segments of the community and motivating them in raising and protecting tree crops for the common good. Summarized below are some of the reasons for the lack of positive community response to Social Forestry Programmes.

- Poor availability and flow of information on how plantations were to be raised on poor land.

- Social Forestry schemes often did not account for the cost of transporting plants to village lands at great distances from the nurseries.

- Lack of community interest in the species promoted by the Forest Department that were useless for fodder or even as fuelwood.

- Mistrust by the community of the system for ensuring equitable distribution of the produce from community woodlots- the rich, landed and influential usually appropriating the "common wealth".

- For a similar reason, a reluctance on the part of the community to let the Forest Department afforest common lands for fear that they (the FD) would subsequently, claim afforested areas as theirs. Reluctance even to accept saplings distributed free for homestead plantations through Social Forestry programmes for a similar fear that the Forest Department would lay claim to the land.

- Disputes among farmers concerning the true extent and availability of village common lands for the establishment of village woodlots. Controversies about alternate uses that the same land served i.e. grazing, access for rural transport,

- Shortage of Panchayat funds for payment of labour and protection of plantations.

- Heterogeneity of village community groups that refused to work together.

- Inadequate and ineffective communication methods to convince target groups of the long-term benefits of Social Forestry. Little or no consultation with the rural community on the choice of lands, species, and little effort to secure cooperation in maintenance and protection.

- No involvement of rural women who are most directly connected with the use of the produce (fodder and fuel) for daily needs.

Efforts to Ensure People's Participation

"People's participation" is the current panacea for improving the success rate of Social Forestry programmes. The National Wastelands Development Board which has virtually taken over official Social Forestry (Wastelands Development) work is attempting to use voluntary agencies to overcome the credibility gap that Forest Departments face among rural communities. People's participation is to be elicited by schemes for issuing "tree pattas", forming tree growers" cooperatives and establishing nurseries in the "people's sector" i.e. on a decentralised basis.

Meanwhile the Department of Rural Development has stepped up allocation of funds for Social Forestry under the National Rural Employment Programme. Under these programmes the rural community, under the guidance of the District Rural Development Agency, is to carry out Social Forestry on Government and community land, roadsides, canal banks, railway embankments.Community rights over the trees are to be guaranteed and the community involved in all stages and aspects of planning and implementation.

Other official assistance is to come also from external sources such as the USAID and the World Bank. Bank loans are to be given to landless cultivators by the National Bank for Agriculture and Rural Development (NABARD) - to encourage them to plant and tend trees on leased land.

Involvement of Voluntary Agencies in Social Forestry

A key component of the delivery system for getting these official schemes to the "people" - the rural poor, landless, marginal farmers - is to be the role of grassroots level voluntary agencies/NGOs who were increasingly integrating forestry activities in their overall rural development programmes. A number of these formal or non-formal groups have a pool of dedicated manpower, technical skills and good rapport with rural communities. But the vast majority of them need to be supported in technical and financial terms.

While planning authorities tend to lump all voluntary groups into a single category there is actually a wide spectrum of motivations, talents and capacities represented among such groups. For the purpose of this study NGOs were divided into two broad (often overlapping) categories i.e. the grassroots NGOs on the one hand and the "professional groups" on the other. The latter (P Groups) were the bodies who had the infrastructure, the technical expertise, and the access to resources for carrying out Social Forestry programmes at a professional level. The former, by far the larger in numbers and spread throughout the country, were strong in their closeness to rural communities and in the trust such communities reposed in them.

The so called "official agencies" profiled represented bodies which also had the capability of supporting the work of NGOs in SF/WD.

PART III

SURVEY OF PROFESSIONAL GROUPS AND OFFICIAL AGENCIES WORKING ON SOCIAL FORESTRY/WASTELAND DEVELOPMENT

The specific parameters on which information was sought from each Professional Group and Official Agency are listed below. Subsequently, profiles of the P Groups and O Agencies are presented.

Parameters for the Survey

1. Name
2. Address and contact person
3. Areas of expertise and support capabilities in fields related to SF/WD
4. System (if any) for access to technical/professional information
5. Sites of SF/WD field projects
6. Programmes that benefit tribals or women specifically
7. NGOs/Voluntary agencies and other community groups with whom the P Group/O Agency has interacted in SF/WD programmes
8. Perception of NGO strengths and failings in relation to SF/WD
9. Method/System (if any)of evaluation of P Group's/O Agency's own work
10. Success in eliciting community participation in SF/WD programmes
11. Perception of the work and role of Forest Departments and other official agencies in supporting SF/WD work of NGOs
12. Social,legal and political problems in carrying out SF/WD work
13. Willingness to broaden interaction with NGOs in SF/WD and relevant terms and conditions

PROFILES OF PROFESSIONAL GROUPS

Society for Promotion of Wastelands Development (SPWD)

Address: Sucheta Bhawan Annexe, 11-A Vishnu Digambar Marg, (Off Deen Dayal Upadhyaya Marg), New Delhi - 110 002

Contact Person: V.B. Eswaran, Executive Director

Areas of Expertise and Support Capabilities in Fields Related to SF/WD

Expertise

- Land capability surveys
(Experts: R.K. Mukherjee, V.P. Agarwala, Arvind Khare, P. Tyagi, Viren Lobo and Rajiv Kansal).

- Land-use planning
(Experts: Same as above)

- Afforestation, including plantation development on wastelands - semi-arid, coastal-saline, alkaline(usar) and hilly land.

(Experts: V.P. Agarwala and Arvind Khare).

- Nursery development

- Irrigation and water management
(Expert: R.K. Mukherjee)
- Soil conservation
(Soil scientists: R.K. Mukherjee, Dr. D.R. Bhumbla and P. Abrol - part-time consultants)

- Energy saving technologies

Support Capabilities

- SPWD provides technical and field information on all aspects of Social Forestry/Wasteland Development. Some examples of such support extended by SPWD are outlined below:-

In its Malewal Project (Eco-development of Hoshiarpur Siwaliks), the SPWD identified appropriate species for plantation with a view to meeting requirements of local households. It installed reservoirs for water harvesting, undertook plantations over two highly eroded micro-watersheds so as to demonstrate the effectiveness of improved rain water management. It also introduced appropriate species of grasses and trees in these micro-watersheds. A trial nursery was set up. The achievements of this project in 1984 were: 1,59,000 plants raised; 12 smokeless and fuel efficient chulhas installed; two watersheds brought under scientific management; and a second reservoir developed. Community awareness about the causes of ecological degradation and people's participation in conservation programmes, has made the project successful.

Ecologically sound techniques for fuel, fruit, non-edible oilseeds, were experimented with and developed in the Mahiti Project (Bhal area, District Ahmedabad, Gujarat) of SPWD. These included: construction of field bunds to prevent inundation and flooding of lowlands by saline water from the sea; land shaping by two methods - bed and furrow and conical raised beds - for growing appropriate salt tolerant plants; harvesting rain water and storing it in shallow, large ponds with lining material to prevent intrusion of saline ground water; using Matkas for drip irrigation in dry summer months;

undertaking adaptation trials of grasses/trees that can withstand salinity; utilising Prosopis juliflora wood for charcoal manufacture. Information regarding the technology that has been developed is currently being disseminated, for example distribution of pamphlets as field guides for Social Forestry, information on methods of trench construction and introduction of grasses.

- Training facilities: Camps are organised for NGOs at project sites by teams from SPWD together with Forest Department officials.

- Supply of inputs: Seedlings are supplied and help rendered in village nursery development; implements are sometimes provided, but only as a "one-time support"; funds are given sometimes to initiate projects, by reimbursing or paying actual expenses before a funding agency takes up the project.

- Project planning, preparation, monitoring and evaluation. Assistance is provided to voluntary agencies for preparing projects for submission to funding agencies.

SPWD has been monitoring and evaluating a project covering villages in Block Jawaja, District Ajmer, Rajasthan, being implemented by the Jawaja Project Group (two project coordinators and 26 Kendra chalaks selected by village communities). The project involves introducing proper silvicultural practices of identified species on marginal lands; development of pasture lands with selected species of grasses; conservation of rain water to check soil erosion; creating awareness about the programme through nonformal education centres and involving village people, school children in plantation on their own lands,school campuses and community wastelands.

The achievements of this project in 1985 were: 30 people's nurseries developed; about three lakh trees planted; seed dibbling undertaken over 575 hectares; pasture development undertaken over 40 hectares; 300 farmers covered in 120 villages; community members, including women and children, involved in reclaiming wastelands in the area.

Yet another project being monitored by SPWD is the Social Forestry programme being implemented by the Anand Niketan Ashram at Rangpur, District Vadodara, Gujarat.

- Documentation and reference facilities for NGOs on all aspects of Social Forestry are provided. A quarterly newsletter, "Wasteland News" is sent out to NGOs all over the country. SPWD is also planning to start a journal.

- Workshops, seminars on various aspects related to SF/WD are organised regularly.

Sites of SF/WD Field Projects

SPWD has implemented Social Forestry programmes at the following sites:

- Ten villages in Bhal area, Taluka Dhandhuka, District Ahmedabad, Gujarat. The objective of this project was to develop technology

appropriate for the restoration of coastal-saline areas and to introduce this in the villages covered by the project. Revenue land has been used for implementing the schemes.

- Village Malewal, Block Saroa, District Hoshiarpur, Punjab. This is a project aimed at eliciting people's participation in the ecological restoration of the choe scarred Siwalik foothills through tree planting and water harvesting. Private lands are being used for SF/WD.

- Villages in Block Jawaja, District Ajmer, Rajasthan. The objective of this project is to develop scientific methods of reclaiming semi-arid terrain; to determine the roles of village schools, non-formal education centres, supporting systems such as financial institutions, NGOs, in wasteland reclamation and eco-development; and finally, to assess the fuel and fodder needs of women. Tree planting and nursery raising are being undertaken on private, Panchayat and revenue lands.

- Village Sehsola, Tehsil Nuh, Block Taoru, District Gurgaon, Haryana (Aravalli Plateau). Nursery raising and tree planting undertaken on privately owned lands.

- Village Garhi Bazidpur District Gurgaon, Haryana (Aravalli). Plantation work has been carried out on private lands.

- Rangpur, Taluka Chotta Udaipur, District Vadodara, Gujarat (monitoring Social Forestry Project).

- Nine villages in District Hardoi, Uttar Pradesh (usar land). Both private and Panchayat lands have been used for reclamation.

- Village Nadah, Tehsil Kalka, District Ambala, Haryana (Siwalik Hills).

- Villages Ragunathpur and Lafaritanr, District Santhal Parganas, Bihar. Private lands belonging to tribals have been used for tasar cultivation.

- Lands belonging to BHEL in Ranipur, District Hardwar, U.P.

- Tata Steel Rural Development Society (TSRDS) units at Jamshedpur,West Bokaro,Jamadoba and Singhbhum, covering over 100 villages in the Chota Nagpur tribal area, including mined lands.

- Village Kokle in District Sangli, Maharashtra. The objectives of this project are: to assist in the development of 160 acres of abandoned farmlands, owned by Harijans, so that they yield fuelwood, fodder, fruits, small timber on a sustainable basis; to promote and develop a peoples movement for restoration of the wastelands; to initiate scientific land-use of available uplands and gullied lands.

- Seven villages - Amlikheda, Gara, Techla, Karvi, Jatia, Kelapada and Mahudikamaal - in Block Peepalkhunt, District Banswara, Rajasthan. SPWD is assisting tribals in these villages to start 14 nurseries and plant trees on three categories of land - private, Panchayat and forest.

Funding agencies for projects have included: The Aga Khan Foundation, India (Bhal Project, Gujarat); Department of Environment, New Delhi (Malewal Project,Hoshiarpur,Punjab); Self-financed (Jawaja Project); and the corporate sector companies like BHEL, TSRDS.

Programmes that Benefit Tribals or Women Specifically

SPWD has two projects for tribals:

- Seven villages of District Banswara, Rajasthan, where nursery raising and tree planting is being undertaken.

- Two villages in the Santhal Parganas District of Bihar, where tasar planting is being introduced on private lands belonging to tribals.

The only project in which the beneficiaries are women (and children) specifically is the Jawaja Project in District Ajmer, Rajasthan,where women and children have been involved in nursery development and plantation raising.

NGOs/Voluntary Agencies and Other Community Groups with Whom the P Group Has Interacted in SF/WD Programmes

SPWD has a lot of experience in providing technical and management support to NGOs working on Social Forestry. It has assisted some 16 NGOs (listed below) with such programmes at different project sites.

- Mahiti, Bhal, Gujarat.
- Jawaja Project Group, Jawaja, Rajasthan.
- Kabliji Rural Health Centre, Garhi Bazidpur, Haryana.
- Anand Niketan Ashram, Rangpur, Gujarat.
- Sarvodaya Ashram, Hardoi, U.P.
- Ranchi Consortium for Community Forestry, Ranchi, Bihar.
- Hill Resource Development & Management Society, Nadah, Haryana
- Foundation to Aid Industrial Recovery, Hyderabad & Delhi.
- SEWA, Singhbhum, Bihar
- Seva Mandir, Udaipur, Rajasthan
- Social Work and Research Centre, Mada, Udaipur, Rajasthan.
- Sanchetak Ghantali, Banswara, Rajasthan
- Society for Tribal & Rural Development, Panchmahals, Gujarat.
- Lok Jagriti Kendra, Madhupur, Bihar.
- Vanvasi Seva Kendra, Adhawa, District Rohtas, Bihar.
- Ekatma Samaj Kendra, Miraj, Maharashtra.

Other Groups with which SPWD has interacted include village Panchayats in Malewal, Punjab and Sehsola, Haryana and tribal communities in Banswara District of Rajasthan. It has also supported the Social Forestry efforts of corporate groups such as TISCO and BHEL. It is collaborating with the Department of Soils, Himachal Pradesh Krishi Vishva Vidyalaya, Palampur in conducting a survey of village common wastelands in H.P.

Perception of NGO Strenghts and Failing in Relation to SF/WD

Strengths

NGOs have a strong credibility in rural areas.

Failings

- Most NGOs have neither adequate manpower nor the technical knowledge required to undertake SF/WD.

- Most NGOs have no perception of watershed management and do not have an "integrated systems approach" to SF/WD. Large scale SF has to be perceived as part of a set of inter-related activities that may include animal husbandry, livestock management, agriculture, silviculture, horticulture.

- Quite frequently, NGO work is not directed towards making communities independent and self-sufficient. Decisions are centralised without considering opinions of local communities.

- Some NGOs have developed vested political motives. Because of their extended association with a community, they have started taking advantage of the power and influence they wield with local people who have grown to trust and depend on them.

- Most members of NGOs are male with the exception of groups like SEWA. The result is that village women hardly interact with them and almost never attend meetings. Womens needs for raising fuelwood/fodder species for domestic consumption are therefore neglected.

Method/System (If Any) of Evaluation of the P Groups Own Work

Assessment and evaluation of project work is done through:

- Reports (in a structured format) by the voluntary organisation implementing the programme.

- Report of the field officer of SPWD at the project site.

- Frequent visits to the project area by the concerned programme officer.

Success in Eliciting Community Participation in SF/WD Programmes

Community participation has been ensured in most of the projects through the local level voluntary organisations.

Perception of the Work and Role of Forest Department and Other Official Agencies in Supporting SF/WD Work of NGOs

- Forest Department's support for Social Forestry Programmes is not village-oriented (barring exceptions). Their understanding of a village

system (comprising trees, grasses, water, livestock, agriculture) and village needs is very poor. Local conditions of climate, soil, topography, are also hardly considered while implementing Social Forestry schemes.

- Insufficient knowledge of fodder, grass, nitrogen-fixing species.

- No women foresters, with the result that village women are rarely involved in Forest Department's programmes.*

SPWD, however, seems to collaborate and work fairly closely with the Forest Department. Training for NGOs, for example, is held in close cooperation with the Forest Department at field sites. The P Group has a good rapport with senior officials in State Government departments. This rapport was usually missing in the case of local and village level officials.

Social, Legal and Political Problems in Carrying out SF/WD Work

Social Problems

- Dominant caste groups usurp common resources.
- Women lack the confidence to take the initiative in SF programmes

Legal Problems

- There is no law in regard to equitable distribution of common resources. This results in benefits being cornered by powerful groups.

- The legal position with respect to usufruct rights are not clear. Criteria for land allotment are also not clear. This creates problems in implementation of programmes especially those involving peoples' participation.

Political Problems

- Subsidies and concessions are distributed with political motives.

- Connivance of Forest Department officials and politicians in forest felling thereby excluding villagers, who have been trying to protect the plantations from receiving a fair share of benefits.

Note: There are four women forest guards in Goa, who along with performing their regular duties, also spread the message of Social Forestry among tribal women in the area.

Willingness to Broaden, Interaction with NGOs in SF/WD and Relevant Terms and Conditions

Interaction with NGOs in SF/WD programmes is the main objective of SPWD. Their only condition is that the NGO be motivated and have a sustained programme.

Action for Food Production (AFPRO)

Address: 25/1A, Institutional Area, Pankha Road, D-Block, Janakpuri, New Delhi-110 058

Contact Person: J.B.Singh, Executive Director

Areas of Expertise and Support Capabilities in Fields Related to SF/WD

Expertise

- Irrigation and Water Management: Undertaking detailed ground water and surface water studies at micro and macro levels; survey and planning for lift irrigation schemes; formulating, designing, monitoring and planning for surface water conservation and management; yield testing of wells; choice of size and type of pumps.

- Land capability surveys and watershed management planning.

- Soil conservation.

(The above-mentioned are handled by the Water Resources Department of AFPRO, headed by Dr. V.K. Dixit. The Water Resources Department has six Geohydrological Investigation Teams (GITS) under its control. These GITS are located at Ahmednagar, Bangalore, Coimbatore, Patna, Varanasi and Hyderabad. Some 21 hydrologists, hydrogeologists and geophysicists are attached to the Water Resources Department and its associated GITS)

- Afforestation including Social Forestry (Specialist : K. Siva Prasad).

- Promotion of biogas technology.

Support Capabilities

- Technical and field information related to Social Forestry is provided free of charge. AFPRO offers regular consultancy services in water supply schemes based both on surface and ground water sources. In their Integrated Land and Water Use Project" at Devpimpalgaon, Maharashtra, AFPRO undertook the following: topographical survey; hydrogeological study; development of water resources through check weirs, check bunds, a percolation tank, tubewells, lift irrigation and drinking water wells; soil conservation through gully plugging and contour bunding; afforestation (community forestry and farm forestry); optimum utilization of ground water from wells.

Within three years soil cover at the project site has been built up and grass cover established. Eight hundred thousand trees on 80 hectares of Panchayat land in the catchment of the percolation tank have come up.

Agricultural production has increased. Farmers in other villages have evinced interest in the eco-development programme of Devpimpalgaon and are keen to cooperate in undertaking such projects in their own areas.

- Training facilities for NGOs are provided by AFPRO on Social Forestry, agro-forestry and bee-keeping. The last mentioned, according to the P Group, forms a significant part of Social Forestry projects. Training for masons, trainer masons and managerial staff in biogas plant construction is also provided.

- Assistance in preparation, evaluation and monitoring of projects. AFPRO assisted Gram Vikas in preparing a Social Forestry project for submission to a donor agency.

- No inputs and funds are provided by AFPRO.

- Consultancy in water supply schemes based both on surface and ground water sources.

Sites of SF/WD Field Projects

- Village Devpimpalgaon, District Jalna, Maharashtra. Titled the "Integrated Land and Water Use Project, "the programme aimed at regeneration of this drought-prone environment by afforestation and provision of other vegetative cover through soil and water conservation.

- Villages Deopur, Dholpur and Shyampur in District Udaipur, Rajasthan. The "Integrated Watershed and Community Development Project" undertaken by AFPRO's GIT unit at Varanasi, involved land development through soil and water conservation and afforestation.

- Village Gokhula, District Muzaffarpur, Bihar. Implemented by the GIT Patna, the "Forestry Assistance to Resourceless Households Project" entailed introduction and propagation of Social Forestry and kitchen gardening (fruits & vegetables) among the inhabitants of Gokhula Village.

All the above-mentioned projects have been funded by Swiss Development Cooperation, New Delhi. Both panchayat and private lands have been used for plantation work.

Programmes that Benefit Tribals or Women Specifically

There have been no special programmes for tribals or women. Tribals have, however, participated in AFPRO's nursery raising and Social Forestry training course.

NGOs/Voluntary Agencies and Other Community Groups with Whom the P Group has Interacted in SF/WD Programmes

With its various GIT units, AFPRO has been providing technical and management support to NGOs undertaking integrated water resources and land development projects. Interaction with voluntary agencies has been intensive in three of the Social Forestry projects mentioned below. In the case of other projects, the P Group merely assisted the NGOs in preparing projects for submission to donor agencies.

- Marathwada Sheti Sahaya Mandal, Devpimpalgaon, Maharashtra.
- Seva Mandir, Udaipur.
- Weaker Communities Action for Development and Liberation, Hyderabad.
- Gram Vikas, Berhampur, Orissa (assistance in preparation of project for submission to donor agency).
- Paroo Prakhand Samagra Vikas Pariyojna, Muzaffarpur, Bihar.

Perception of NGO Strengths and Failings in Relation TO SF/WD

Strength

- NGOs major strength is their sense of commitment to programmes that they undertake.

Failing

- NGOs lack the technical expertise and sufficientmanpower for effective implementation of SF programmes.

Method/System of Evaluating the P Groups Own Work

AFPRO evaluates its own SF/WD projects according to the following criteria:
- Type of forest farming system adopted
- Diversity of plant species raised
- Survival of plants
- Relevance of plants raised to the local needs of the community
- Category of land (by ownership) on which plantations have been raised
- System adopted for sharing the benefits of Social Forestry programmes
- Weightage given to ecological considerations while implementing the SF/WD programme.

Success in Eliciting Community Participation in SF/WD Programmes

"AFPRO believes in direct dialogue with local voluntary agencies and target groups before and while implementing the programme." J.B.Singh, Executive Director, AFPRO

AFPRO depends upon local voluntary groups to elicit community participation.

Perception of the Work and Role of Forest Department and Other Official Agencies in Supporting SF/WD Work of NGOs

The Forest Department can be of great assistance to NGOs working on Social Forestry Programmes. Therefore, it is imperative for voluntary agencies to maintain good working relations with officials. However, the Department's conceptions about Social Forestry - such as propagation of particular species, not necessarily those needed by local communities - were often different from those of the voluntary agencies.

In the long run, NGOs should attempt to reduce their dependence on the Forest Department by strengthening their own infrastructure and capabilities vis-a-vis Social Forestry operations.

In addition to the Forest Department, other Government departments, functioning in an integrated manner, could play a vital role in SF/WD programmes. These departments are: Tribal development agencies - Reforestation; State Khadi and Village Industries Commission - Agriculture; Animal Husbandry Department - Fodder development; Soil Conservation Department- Revegetation of barren hills; Social Welfare Organisations - seed collection and distribution.

Social Legal and Political Problems in Carrying out SF/WD Work

All such problems are handled by the grassroots level voluntary agency with whom AFPRO collaborates in SF/WD work.

Willingness to Broaden Interaction with NGOs in SF/WD and Relevant Terms and Conditions

AFPRO is most willing to interact more intensively with NGOs provided the latter seek technical advice and not funds. AFPRO is not a funding agency.

Bharat Forestry Consultancy - Bhopal (BFC-Bhopal)

Address: 156/A Indrapuri, Bhopal 462 022, Madhya Pradesh.

Contact Person: S.S.Chitwadgi, Executive Director

Areas of Expertise and Support Capabilities in Fields Related to SF/WD

Expertise

- Afforestation: Agro-Forestry, silvi-pastoral development, farm forestry, urban forestry, homestead forestry, afforestation on barren and mined areas, fringe forestry along waterways, forestry to counter pollution in industrial areas, commercial forestry.)

(Expert: S.S. Chitwadgi)

- Watershed management.

Support Capabilities

- BFC-Bhopal has all the necessary expertise required to provide technical and field information related to Social Forestry.

Sites of SF/WD Field Projects

BFC - Bhopal has been spreading agro-forestry, subabul and eucalyptus cultivation in Durg and Bhopal Districts of M.P. Farmers under Bharat Krishak Samaj adopted subabul cultivation - District Durg.

- Villages around the city of Bhopal. Farmers are taking to agroforestry.
- Private nurseries of eucalyptus have been set up in and around Bhopal.
- Industrial estates in Damoh, District Bhopal, have established plantations under BFC's guidance.

All of BFC's SF/WD work has helped private farmers. Funds have come from the farmers themselves.

Programmes that Benefit Tribals or Women Specifically

There have been no such programmes.

NGOs/Voluntary Agencies and Other Community Groups with Whom the P Group has Interacted in SF/WD Programmes

BFC - Bhopal has had very little interaction with NGOs in plantation activities. The only NGO has been Resources Development Institute, Bhopal. BFC has interacted mostly with private farmers.

Method/System (If Any) of Evaluating the P Group's Own Work

Evaluation is done by periodic visits to farms to inspect plantation and gauge the success of the programme.

Success in Eliciting Community Participation in SF/WD Programmes

Since BFC has worked only with individual farmers on lands owned by them, there has been no community effort towards SF/WD.

Perception of the Work and Role of Forest Department and Other Official Agencies in Supporting SF/WD Work of NGOs

- The M.P. Forest Department is the sole authorised Government body promoting and executing Social Forestry programmes. The Department has so far failed to seek cooperation from NGOs (like Bharat Forestry Consultancy) in this venture.

- The Department has never accepted the role of NGOs in Social Forestry. It has vast funds and human resources but the people who are supposed to benefit from Social Forestry do not willingly participate in the Forest Department's Social Forestry projects.

- State Government departments are indifferent to the work done by BFC in SF/WD.

Social, Legal and Political Problems in carrying out SF/WD Work

BFC has had no such problems.

Willingness to Broaden Interaction with NGOs in SF/WD and Relevant Terms and Conditions

BFC is willing to interact with NGOs. It lays down no particular terms and conditions.

Ranchi Consortium on Community Forestry (RCCF)

(Though this P Group now appears to be non-functional, its experience over the years has been projected as it is valuable from the point of view of this report)

Address: 4, Bariatu Road, Bakshi Compound, Ranchi 834 008. Bihar

Contact Person: S.K.Bakshi, Secretary

Areas of Expertise and Support Capabilities in Fields Related to SF/WD

Expertise

- Afforestation and plantation management.

- Nursery raising.

Support Capabilities

- Supply of technical know how related to SF/WD.

- Organising workshops and seminars to facilitate an exchange of ideas and experience in fields related to SF/WD.

- Publishing reports on the activities of various member organisations of the RCCF. Two quarterly news bulletins are brought out (in Hindi and local languages) and distributed by RCCF and its member organisations to several institutions, NGOs and local people.

- Liaising between local tribals and Governmental institutions and facilitating connections between Government officials and member organisations.

- Research. RCCF carried out a socio-economic survey of Bihar to facilitate the design and implementation of a large Social Forestry programme in the State at the request of the Bihar Forest Department and the Swedish International Development Agency (SIDA).

- Training: 50 villagers participated in different training programmes, on the production of tasar silk, held by the Central Tasar Research and Training Institute and organised by the RCCF and its member organisations.

- Monitoring and evaluation of SF/WD works.

Sites of SF/WD Field Projects

RCCF's project areas lie in the Chota Nagpur tribal belt of Bihar State.

- Jonha Falls area, Block Angara, District Ranchi, Bihar. Village Musungu - plantation on 28 acres of forest land and nursery (capacity: 200,000 saplings) on the private land of a farmer; Village Mungadih - promotion of community forestry and afforestation on 64 acres of wasteland. Two village-level workers of the RCCF reside in the Jonha Falls area and have regular discussions with villagers, using their labour in plantation activities. Fruit trees have been distributed to school children and individual farmers under the "Tree for Every Child" programme.

- Block Bero, District Ranchi, Bihar. Plantation of Arjun (Terminalia arjuna), the host tree for tasar cultivation, on 30 acres of protected forest wasteland undertaken in close collaboration with the Forest Department, as an experiment-cum-demonstration project. In Village Kaksitoli (Block Bero), protection and management of about 30 acres of sal forest is being undertaken by villagers on land, the ownership of which is being contested by the villagers and the Government. of Bihar. A nursery has been established, which produced 50,000 saplings (1983) that have been distributed among school children and individual farmers under the "Tree for Every Child" programme for raising on private lands. At present, all SF/WD activities in Block Bero are being looked after by Xavier Institute for Social Service (XISS), a member organisation of RCCF.

- Plantation raising on Rama Krishna Mission Ashram's farm at Getalsud, 30 km. south of Ranchi, as a demonstration model.

- Block Arki, District Ranchi, Bihar. Awareness raising (vis-a-vis SF/WD) campaign started with a series of promotional-cum-motivational meetings with farmers.

Programmes that Benefit Tribals or Women Specifically

All of RCCF's SF/WD projects benefit tribals (mainly Mundas, Oraons and Hos) directly.

NGOs/Voluntary Agencies and Other Community Groups with Whom the P Group has Interacted in SF/WD Programmes

The P Group has interacted with a member of NGOs working in the tribal areas of Bihar. RCCF itself is a confederation of NGOs formed with the purpose of cooperating with the Forest Department of Bihar in the promotion of SF/WD. The member groups are:

- Krishi Gram Vikas Kendra (KGVK)
- Rama Krishna Mission Ashram (RKM)
- Vikas Maitri (VM)
- Xavier Institute for Social Service (XISS)
- Gram Vikas Kendra (GVK)
- Lok Jagriti Kendra (LJK)
- Metallurgic and Engineering Company (MECON)

- Operation Self Help (OSH)
- Tata Steel Rural Development Society (TSRDS)
- Van Vasi Seva Kendra (VVSK)

The RCCF was supposed to coordinate the activities of all these groups working among tribals and serve as a fund dispersing agency and forum for interchange of ideas and experiences. It has not been very successful in this and has planned to hand over available funds to its constituent members and give up the responsibility of coordination of fund distribution. Instead, it proposes to undertake plantation work of its own.

Success in Eliciting Community Participation in SF/WD Programmes

RCCF's "approach, claimed as a participatory one, may be better characterized as one of enlightened top-down control" observes J.D. Van Blitterswijk in his report on Non Governmental Organisations and Social Forestry in India for the Department of Forest Management, Wageningen Agricultural University, the Netherlands. RCCF reaches the poor with its plantation schemes through (low) paid labour. Tribals get wages for clearing, pit digging, fencing, planting, guarding.

All field activities are coordinated and supervised by the executive staff of RCCF. Planning, coordination with Governmental institutions, transport of planting stock, supply of various inputs, are among the responsibilities of the P Group. The local population is involved in the process of plantation raising. To RCCF goes the credit of motivating tribals to take up tree planting despite the initial resistance to this on the part of local communities. The local people were more keen on health care programmes and education facilities. RCCF started such programmes free of charge and used them as forums to promote SF/WD among tribals.

Perception of the Work and Role of Forest Department and Other Official Agencies in Supporting SF/WD Work of NGOs

The RCCF depends heavily on Government institutions to provide inputs and other forms of assistance for its SF/WD programmes. It has a good relationship with the Forest Department which gives saplings free of charge and has provided training facilities several times. The Department, has also allocated protected forest land for a number of RCCF's projects. Host tree saplings for tasar cultivation are supplied free of charge by the Central Tasar Institute. RCCF has been quite successful in moulding most of the existing Governmental programmes to favour tribal communities.

Social, Legal and Political Problems in Carrying out SF/WD Work

Land is often the source of serious conflicts. Villagers of Kaksitoli, Block Bero, District Ranchi, for instance, are contesting the ownership of a sal forest area with the Bihar Government. When this resulted in a serious confrontation, RCCF intervened and temporarily settled the issue. Statutory legislative measures conflict with the traditional rights of tribals. Over the years, there have been restrictions of tribal rights in newly declared

Government areas and a continued alienation of tribal lands. This has made tribals suspicious of outside elements, especially the Forest Department officials, who are perceived by them as policemen.

Traditional community properties,in some tribes, are controlled by the village headman. This created a problem in Arki Block in the Mundari area. Villagers did not wish to take up plantation work on common wastelands because of the strong claims of the village headman on those areas.

Acquiring land for community forestry, especially in the context of a complicated land tenancy system, has been difficult.

Kasturbagram Krishi Kshetra (KKK)
Kasturba Gandhi National Memorial Trust

Address: P.O. Kasturbagram, District Indore - 452 020, Madhya Pradesh

Contact Person: T. Govindan Kutty Menon, Director

Areas of Expertise and Support Capabilities in Fields Related to SF/WD

Expertise
- Nursery development
- Afforestation (Raising of orchards)
- Agro forestry
- Non-conventional fuel and energy saving technology (biogas, solar, wind, fuel-efficient chulhas).
- Land capability surveys
- Irrigation and water management

Support Capabilities

- Technical and field information related to agro-forestry and Social Forestry. One of its experiences in wasteland development has been reclamation of a 45 hectare hillock at Kasturbagram that was without vegetation at the start of the eighties. Under its Social Forestry scheme, the KKK undertook silvi-pastoral development of the area using methods like contour bunding, growing grasses for the first few years to build up the moisture retaining capacity of the soil and finally planting timber, fuel, fruit and fodder species. The erstwhile barren land has been successfully converted into a rich pasture-cum- energy plantation.

KKK acts as an intermediary between the Government and NGOs.

- Training: school children, college girls, women and men trainees, farmers, labourers and others are regularly trained in raising seedlings in the nurseries. A well-planned nursery has been developed in which fruit ornamental,fuel and shade giving trees are grown for distribution in rural areas. The involvement of people at different levels helps in transmitting the skill (of raising seedlings) and as a demonstration of income generating programmes.

- Supply of inputs include seedlings and seeds. Seedlings are raised in polythene bags with the help of the Forest Department. Every Year some 25,000 polythene bags are prepared.

- Education of the public about the need and importance of Social Forestry has been taken up by the Group and people are being motivated to accept the programme. The ecological importance of trees, the sacrifice of Amrita Devi, the significance of Chipko Andolan, the role of religion, are some of the motivating messages. These messages are given through classroom teaching, discussions, film shows, visits to Social Forestry work sites, seminars and conventions. A group of 1,500 trained farm women participated in a three day convention on Social Forestry, and the role of women in popularising it. Similarly 110 Sarpanches of the District discussed the role of Panchayats and Panchayat department in popularising the programmes of community forestry. The three day programme brought three major departments of Panchayat, Revenue and Forest on one common platform. The initiator and catalytic agent was the voluntary agency-Kasturba Ghandhi National Memorial Trust (KGNMT).

- Promoting and providing information on installation and use of biogas plants, solar cooking and heating systems, photovoltaic pumps for lifting water, wind mills and smokeless chulhas. Programmes like "Solar Lunches", "Solar melas" have helped to popularise these systems. Two villages have so successfully adopted smokeless chulhas that they have been named "smokeless villages" and are forerunners in a programme that hopes to cover more villages.

- Documentation and reference facilities: KKK has a well equipped library on subject matters including Social Forestry, silvi-culture, afforestation, non-conventional and alternative energy sources.

Sites of SF/WD Field Projects

KKK has involved people in afforestation in a number of villages of Indore District.

- Five villages have been adopted in the vicinity of Kasturbagram.

- Families in 42 villages in Indore and Mhow Tehsils have been provided with seedlings for homestead plantations.

- A 45 hectare hill area in Kasturbagram has been converted into a green belt over the last decade. It has been planted over with different types of trees and grasses including bamboo and fruit trees. The plantation is a demonstration farm.

- A motivation-cum-training programme in Social Forestry, grassland development, nursery raising, establishment of community woodlots is being launched in about 40-50 villages around Kasturbagram.

- SIRIDI Project, Machhal Village, Dhav Road, Indore.

- All provincial branches of Kasturba Trust.

KKK's SF/WD projects have been carried out on almost all categories of land-private, panchayat, forest and Government-owned. Most of the funds for these programmes have been obtained from the Kasturba Gandhi National Memorial Trust itself. Other sources have been: the Forest Department, National Wastelands Development Board (training-cum-educational programme), and Department of Non- Conventional Energy Sources (energy plantation on 20 hectares).

Programmes that Benefit Tribals or Women Specifically

All of KKK's projects are directed towards the welfare of women and children. Those provincial branches of the Trust that are operating in tribal areas, are engaging tribal women in afforestation activities.

NGOs/Voluntary Agencies and Other Community Groups with Whom the P Group has Interacted in SF/WD Programmes

Provincial branches of the Trust interact with local voluntary organisations. They also associate with the Forest Department (Social Forestry Wing) and other Government Organisations.

At the village level, the P Group has interacted with village Panchayats, and individual rural folk, mainly women and children.

Method/System (If Any) of Evaluating the P Group's Own Work

Projects are evaluated through annual accounts of production yields

Success in Eliciting Community Participation in SF/WD Programmes

In Kasturbagram, students, trainees and staff members participate in the programmes. In various villages where KKK is working, villagers have been involved in the activities.

Perception of the Work and Role of Forest Department and Other Official Agencies in Supporting SF/WD Work of NGOs

Government organisations overlook the importance of people's participation in SF/WD programmes, which the NGOs do not. Government agencies have a vital role to play in implementing SF/WD, but there is hardly any coordination between the various departments. KKK has received ample assistance from Government departments and concerned ministries in their SF/WD programmes.

Social, Legal and Political Problems in Carrying out SF/WD Work

The legal aspects of tree-crop harvesting - having to take the permission of the Government before harvesting products as in the cases of grain, fruits, fodder - are very troublesome for villagers. KKK faces no political problems.

Willingness to Broaden Interaction with NGOs in SF/WD and Relevant Terms and Conditions

Due to staff and resource limitations KKK would find it difficult to expand interaction with NGOs.

Community Action for Development (CAD)

Address: 1/50, Alankuppam Village, (Near Ambur), North Arcot District, Tamil Nadu - 635 814.

Contact Person: Narayana Murthy (Nani), Chairman

Areas of Expertise and Support Capabilities in Fields Related to SF/WD

Expertise

- Afforestation: site selection, choice of species
- Land capability surveys: soil testing and analysis, surveys
- Promotion of fuel-efficient ovens

Support Capabilities

- Technical and field information
- Publication of literature on forestry in Tamil
- Training programmes for NGOs, adult education animators, junior Social Forestry staff of the Forest Department like Range Officers, CAD has held a series of workshops for school teachers. It also has regular meetings with them to inform and involve them in various Social Forestry programmes initiated by CAD. Eco-development camps are an annual feature of CAD. These help to expose villagers to local environmental problems and to ways for solving them. Such camps include field visits, experiments, meetings with concerned Government officials, tree planting programmes,
- Consultancy services: are provided by CAD to the Social Forestry Wing of the Forest Department in selecting sites for plantation, choosing nurseries, supply of seedlings,
- Monitoring and evaluation of the Social Forestry programme on a yearly basis.

Sites of SF/WD Field Projects

Afforestation has been carried out in:

- Villages in Taluks Madanoor and Pernambut, District North Arcot, Tamil Nadu. CAD has been helping the State Government to implement many of its rural programmes,including Social Forestry, which has been launched in the State with financial assistance from SIDA.

NGOs/Voluntary Agencies and Other Community Groups with Whom the P Group has Interacted in SF/WD Programmes

CAD has interacted with Tamil Nadu-based NGOs, mainly through training programmes, camps, workshops and other such forums.

- Medical, Educational, Rural & General Trust (MERG), Guduvancheri, District Chingleput
- "KUDUMBUM", Tanjore
- Centre for Promotion of Social Concern (CPSC), Tindugul
- Social Forestry Information Project, Madurai.

CAD has also worked with village development groups in the following villages in and around Ambur: Penyankuppam, Solur, Vinnamaupalam, Nacharkuppam, Malaiyambathi, Gandhi Nagar, Sanankuppam, Machigam, Develapuram and Agaramcheri.

Perception of NGO Strengths and Failings in Relation to SF/WD

Few NGOs possess the knowledge required to successfully implement Social Forestry projects. Most of them have constraints such as funds, lack of Governmental cooperation

Perception of the Work and Role of Forest Department and Other Official Agencies in Supporting SF/WD Work of NGOs

- The Social Forestry Department has no clear vision of the basic concepts of Social Forestry and continues to play hide and seek with the villagers. Social Forestry work in Tamil Nadu is much behind schedule.

- CAD, however, has no such problem, as it was the first Group to emerge in this field and has sorted out ways to work in collaboration with the Social Forestry Wing of the Forest Department. The Group has been helping the Forest Department to form village level committees, organising lands and people for plantation activities. Since the Department and local woodcutters do not have "working" relations with each other, CAD provides forums at which local communities, Government officials and voluntary agencies can come together.

The P Group has also been arranging training programmes for voluntary agencies and junior Forest Department officers.

Willingness to Broaden Interaction with NGOS IN SF/WD and Relevant Terms and Conditions

CAD is willing to interact more intensively with any NGO willing to accept help. The only condition is that the expenses involved be met by the concerned NGO.

Population and Environmental Education Center (PEEC)

Address: P.O. Velgode, District Kurnool, Andhra Pradesh-518 533

Contact Person: Dr. R.R. Swamy, Director

Areas of Expertise and Support Capabilities in Fields Related to SF/WD

Expertise
- Afforestation
- Nursery development
- Wasteland development
- Project planning and management

Support Capabilities

- Training and motivation: Has training facilities for youth, village leaders and social workers.
- Raising and supplying seedlings: Provides information and assistance in nursery development. Supplies seedlings, preferably of quick growing species - subabul, eucalyptus, peltophorum, acacia - from its nursery.
- Has a full-fledged extension programme.
- Loans given to Harijans and women for livestock rearing as part of SF/WD programmes.
- Library facilities.
- Audio-visual equipment, including a 16mm projector.

Sites of SF/WD Field Projects

- Ten villages in District Kurnool: Velgode, Nallakaluva, Mustipalli, Karivena, Abdullapuram, Boyarevula, Mothukuru, Thimmanapalli, Devalapuram, and Jutur.
- Eight villages in District Chittor: Madanapalli, Rishi Valley, Thettuvaripalli, Kumarapuram,Nakkaladinna, Arogyavaram, Chegalabayalu, and Dasinikonda.

The SF/WD project in District Kurnool has been funded by the US based organisation, World Neighbours. The AP Forest Department is raising nurseries for this project.

The project in District Chittor is being funded partly by the local community and partly by the AP Forest Department.

Programmes that Benefit Tribals or Women Specifically

PEEC's projects are oriented towards development of sections of society-tribals and harijans. Programmes on SF/WD have sought the active participation of women at every stage.

Preference is given to Harijans in selecting participants for the SF/WD projects. 10 Harijan families are presently involved in raising multi-species plantations inter-cropped with food grains. Combined with the afforestation programme is a scheme to provide loans to Harijans for purchase of milk animals, small rams, piggery units and backyard poultry.

Emphasis is being given to involve women in Social Forestry with loans being provided for activities that guarantee rapid financial returns like purchase of milk animals, small rams, leaf plate stitching, sewing machines

NGOs/Voluntary Agencies and Other Community Groups with Whom the P Group has Interacted in SF/WD Programmes

Interaction with voluntary agencies has involved exchange of information in regard to SF/WD and supply of seeds/seedlings. The following voluntary organisations have been involved:

- CROSS Hyderabad,
- AWARE, Hyderabad,
- Rural Development Advisory Services,Hyderabad
- BCT, Yelamanchili,
- Besant Centenary Trust,
- J.K. Foundation,

along with many small agencies that are in regular contact with PEEC.

Other community groups with whom the P Group has interacted include: many youth associations, women's organisations, Anganwadi teacher's groups of the area and farmers (including small and marginal farmers) and Harijans who approach the P Group for information and advice in regard to afforestation on wastelands.

Perception of NGO Strengths and Failings in Relation to SF/WD

Strengths

NGOs have a flexible approach to rural development, that cannot be matched by official extension agencies which are bound by rules. Some voluntary workers, despite lacking the technical knowledge in carrying out SF/WD, arequick to pick up the techniques of raising nurseries, transplanting, soil conservation

- A majority of NGOs are keen to take up SF/WD work. Andhra NGOs meet regularly to discuss their SF/WD programmes.

Failings

- Most NGOs do not have a good rapport with Forest Department officials.

- Professional advice and information on SF/WD is often not available to NGOs.

A majority of them do not raise their own seedlings and are dependent on supply from other sources. Polythene bags for raising seedlings are also hard to come by. Still worse is the fact that information about the sources of seeds/seedlings supply is not readily available to most NGOs.

- Some NGOs are encouraging only species of value as industrial raw material (pulpwood, paper) rather than fuelwood and fodder.

- Some NGOs are unwilling to assist in or have anything to do with Government programmes for ideological and other reasons. This would appear to be an unnecessarily negative and self limiting approach.

- NGOs have difficulty in motivating people to take up polyculture rather than monoculture of species.

- Availability of funds is a problem, especially for those agencies based in and operating in interior villages. Such NGOs do not get funds from donor agencies. The bigger, more prominent NGOs are rarely inclined to take up projects in interior villages. They tend to focus their activities in and around cities/towns.

Method/System (If Any) of Evaluating the P Group's Own Work

PEEC staff constantly supervise work in the fields. The Director of the P Group, regularly consults leaders of the local community as well as officials of the Forest Department. Works are professionally planned and executed and no longer involve trial and error methods.

Success in Eliciting Community Participation in SF/WD Programmes

PEEC has been highly successful in involving participants in its SF/WD programme.

Perception of the Work and Role of Forest Department and Other Official Agencies in Supporting SF/WD Work of NGOs

- Most forest officials do not like to work with NGOs.
- Lower forest officials do not supply seedlings to farmers at the appropriate time.
- In Andhra Pradesh, only 3,000 seedlings are given free to farmers. This ceiling should be removed and the farmer given as many seedlings as he requires.
- The Forest Department pays NGOs a paltry 12 paise per seedling raised by them. The polythene bag itself costs six paise. Besides, NGOs often have to bribe the forest range officer to passtheir bills and make payments. At times, the Department refuses to purchase the seedlings on the plea that there was no demand for them.

The Forest Department could enlist the involvement of NGOs in Social Forestry work in the following ways:-

- Involve NGOs in the District Planning Board
- Encourage and assist NGOs in raising nurseries and in distributing saplings to farmers.
- Involve NGOs in site/field selection for planting seedlings.
- Forest Department can supply literature on Social Forestry to NGOs.

- Allot wastelands to NGOs to raise plantations.
- Provide technical assistance to NGOs on matters related to Social Forestry.

Individual district level officials can sometimes be very cooperative. A certain Dy. Collector, for instance, used to refer all Social Forestry programmes to NGOs, even inviting them to district development board meetings. The frequent transfer of officials is a great handicap, for not all officers rendered help to, or sought the involvement of, NGOs in developmental programmes.

Social, Legal and Political Problems in Carrying out SF/WD Work

A major problem faced by the P Group is its inability to acquire funds for its SF/WD projects because of its location far away from the "centre of power" and therefore, also an airport. While NGOs based in and around cites like Hyderabad and Bangalore have had no problems getting funds from donor agencies, PEEC has been unable to extend its SF/WD programme to the drought-prone Rayalaseema District due to the paucity of finances. The P Group has been neglected in this regard, both by the Government and donor agencies.

Willingness to Broaden Interaction with NGOs in SF/WD and Relevant Terms and Conditions

PEEC is willing to extend help to NGOs in the form of technical information, seed supply (at nominal rates i.e. collection charges), and preparation of project reports (again at a nominal fee to meet stationary and secretarial assistance charges). PEEC personnel are available as resource persons for seminars and lectures.

Comprehensive Rural Operations Service Society (CROSS)

Address: 1-6 Snehapuri, Nacharam, Hyderabad - 501 507, Andhra Pradesh

Contact Person: M. Kurian, Executive Director

Areas of Expertise and Support Capabilities in Fields Related to SF/WD

Expertise
- Dryland farming
  (M. Thomas, M. Siddareddy)
- Water management
  (M. Thomas, M. Siddareddy)
- Promotion of smokeless chulhas
- Nursery development
  (P. Stanislaus, Y.S. Raju, G. Sampath Rao)
- Horticulture
  (P. Stanislaus, G. Sampath Rao)
- Foundation seed processing, sapling raising
  (Shiv Kumar)

CROSS has 60 professional staff, 1,400 extension workers and about 5,000 trained volunteers. Whenever necessary, CROSS obtains expertise from other organisations/individuals. FAIR, Hyderabad, is helping CROSS with technical and planning advice. Another scientific organisation called PROGRESS is also associated with the P Group. In addition, a panel of some 20 scientists render professional advice to CROSS.

Support Capabilities

- Training facilities: Village-level animators are selected and trained in motivating farmers about the ecological and economic benefits of Social Forestry using charts, street theatre and other folk methods. Training is also provided in agricultural methods, dryland farming techniques, nursery development, horticulture, types of trees that could be grown, level of inputs required, water management methods, budding/grafting techniques CROSS centres at Bonghir, Mothkur and Aler, all in Nalgonda District of Andhra Pradesh, are used for such training.

- Supply of saplings from CROSS nurseries.

- CROSS has its own seed farms equipped with seed processing machines

- Facilities for soil testing and soil conservation are also available.

- Provides irrigation facilities like well digging, setting up filter tube wells

- Conducts workshops and seminars. CROSS has already held seven seminars and one workshop on SF/WD.

- Supplies every essential agricultural implement required for SF/WD.

- CROSS's animators negotiate with official agencies on behalf of the community. In its project area CROSS helped organisations of Harijan farmers - Sanghams - acquire land for SF/WD from the local authorities. Thereafter, it helped the Sanghams get a bank loan for procuring irrigation facilities by standing guarantee on behalf of the poor and marginal farmers.

- Loans and funds are also given. Sometime in the 1970s, CROSS gave loans to members of Sanghams to start their own businesses. When the money was returned, it was put into a separate fund with which the community bought wasteland areas for afforestation. CROSS has also been advancing funds to set up smokeless chulhas in the households of Talukas Mothkur, Aushapur, Bonghir, Devarakunda and Aler.

Sites of SF/WD Field Projects

CROSS has undertaken Social Forestry Projects on the following sites:

- Aushapur, Taluka Bibinagar, District Nalgonda, Andhra Pradesh. Plantations (40 acres) of casurina and eucalyptus have been raised with an intermixture of fruit trees like mango, lime, coconut, sapota (chikoo) and guava along with vegetables such as tomato, lettuce leaves and brinjal. Sericulture has also been taken up.

- Pogadipalli, Taluka Bonghir, District Nalgonda, Andhra Pradesh (60 acres).

- Raigir, Taluk Bonghir, District Nalgonda, where SF/WD is being undertaken on six acres of sangham community land.

- Dharmapur, Taluka Mothkur, District Nalgonda, Andhra Pradesh (25 acres).

- Kanchinapalli, Taluka Mothkur, District Nalgonda, Andhra Pradesh (35 acres).

- Patelguddam, Taluka Aler, spread over 50 acres in Districts Nalgonda and Warangal, Andhra Pradesh.

- 25 villages in Districts Nalgonda, Ranga Reddy and Warangal have recently been identified for forest-cum-pasture development projects on saline/alkaline wasteland-mostly village commons. Afforestation has been undertaken by "village sanghams" guided by CROSS, on farmers' plots, community lands belonging to Harijans, village community lands, wastelands purchased by Sanghams themselves and Government wasteland.

- CROSS has helped establish about 20 large sized nurseries in its area of operation.

Most of CROSS's SF/WD projects have been in the form of fuelwood plantations, although in a few areas it has taken up fruit tree planting and vegetable growing.

CROSS's SF/WD projects have been funded by the National Wastelands Development Board; HOPE International Development Agency, Canada (HIDA); Evangelische Zentralstelle fur Entwicklungshilfe (EZE), West Germany; Bread for the World, West Germany; Inter Church Coordination Committee (ICCO), Holland. The last three agencies have jointly financed projects.

Programmes that Benefit Tribals or Women Specifically

Nursery raising is mostly done by women's groups or women's sanghams. Harijan women in CROSS's project area have started playing an increasingly significant role in community affairs after they have been organised into sanghams. Apart from nursery development, women sanghams have been active in the installation of smokeless chulhas. They have been trained by Ago Pumpsets and Implements Limited, a State Government undertaking. Women have also started manufacturing stores, further simplifying the model brought out by the Delhi based group - Development Alternatives. Around 40 women are making stoves which will be marketed through women's sanghams.

NGOs/Voluntary Agencies and Other Community Groups with Whom the P GROUP has Interacted in SF/WD Programmes

CROSS has been interacting with the following NGOs from Orissa, Kerala and Andhra Pradesh.

- Comprehensive Social Service (CSS), Rompivalsa, Taluka Patapatnam, District Srikakulam, A.P.

- Kimidi Multisectoral Developmental Society (KMDS), Parlakudi, District Ganjam, Orissa.

- Deccan Development Society, Hyderabad.

- Society for Action with the Poor (SAP), Vallachira, Kerala.

- Highrange Integrated Development for Social Amity (HIDSA), Ayyapacoil, Kerala.

Other collaborative projects have been with the College of Social Work, Osmania University, Hyderabad and the National Service Scheme of the Osmania University. Work has also been done with the Panchayats of Districts Nalgonda, Warangal and Srikakulam.

CROSS has been working closely with village associations or Sanghams. CROSS members and animators have been guiding sanghams, while encouraging them to take decisions on their own. Women's sanghams have also been formed.

Perception of NGO Strengths and Failings in Relation to SF/WD

Strengths

NGOs remain in contact with villagers and succeed in establishing a good rapport with them. Their guidance is, therefore, more acceptable to village communities. They are also in a better position to enlist the cooperation of the community in Social Forestry programmes.

Method/System (If Any) of Evaluating the P Group's Own Work

- The Primary evaluation is done at the sangham level. Further evaluation is done by the sangham representatives to the Area Level Committee.

- Secondary evaluation is done by the Staff Committee.

- Further evaluation is undertaken by other institutions and organisations.

Success in Eliciting Community Participation in SF/WD Programmes

One of the P Group's greatest achievements has been the development of a community participation model called "Sangham Model". Over the last decade this model has successfully organised the poor in 500 villages through 700 sanghams. The essence of this model is mobilization of the rural poor (mainly weaker sections like Harijans) through their collective participation in planning, decision making, self-criticism and evaluation. This model, while working with vertical alliances with varied interest groups, invites horizontal alliances with single interest groups-like all people belonging to the same caste or profession.

The sanghams organised by CROSS have been responsible for launching afforestation programmes. They have also been purchasing wastelands for afforestation.

All programmes are discussed in depth and planned at sangham meetings by the participating beneficiaries. The sanghams contribute free labour in land development and plantation schemes and are advised by animators who have been trained by CROSS in afforestation and related activities.

CROSS is one of the few NGOs to have elicited participation of community members in SF/WD in a significant way.

Perception of the Work and Role of Forest Department and Other Official Agencies in Supporting SF/WD Work

- The district authorities and higher officials of the Andhra Pradesh State Forest Department are extremely bureaucratic and non-cooperative. In areas where it can be helpful - procurement of seeds, sharing expertise - it has been most unforthcoming. Help requested from the Forest Department is never timely with the result that a project launched with the Department's assistance rarely succeeds.

- Visiting officials and Forest Department's senior staff make comparisons between the work done by CROSS and that of the State Forest Department, always to the Group's disadvantage. The Forest Department has started nurseries for Social Forestry around some CROSS projects and is planting trees along roads skirting the Group's Social Forestry area.

- Too many Government departments are involved in SF/WD resulting in either their working at cross purposes, or not working at all. Unless all state agencies come to a consensus most of the Government owned wastelands will remain undeveloped.

Social, Legal and Political Problems in Carrying Out SF/WD Work

- Lack of cooperation from Government functionaries.

- In new project areas,it takes a lot of time to get local people to understand the concept of SF/WD and to gain their participation in programmes.

Willingness to Broaden Interaction with NGOs in SF/WD and Relevant Terms and Conditions

The P Group is very willing to interact with NGOs, to give them advice/training in areas of CROSS's specialisation. The only condition is the seriousness of the NGO concerned in regard to implementing the programmes.

The Bhagavatula Charitable Trust (BCT)

Address: Orugantivari Street, Yellamanchili-531 055, District Visakhapatnam, Andra Pradesh.

Contact Person: Dr. B.V. Parmeshwara Rao, Secretary and Chief Executive

Areas of Expertise and Support Capabilities in Fields Related to SF/WD

Expertise

- **Nursery raising.**
- **Afforestation/wasteland development/silvi-pastoral development**
- **Irrigation/water management. BCT has a water exploration and drilling unit.**
- **Water divining**

Support Capabilities

- **Supply of technical and field information. BCT's Panchadarala Project in District Visakhapatnam, Andhra Pradesh, has resulted in land being put to productive use through scientific land and water management techniques; contour trenching and bunding; irrigation by sprinklers and silvi-pastoral development. The project successfully demonstrates to villagers that impoverished land can be put to productive use. This model Social Forestry project has been developed in the hope that such projects multiplu in the area.**

- **Training is given in Social Forestry, agriculture, animal husbandry, windmill installation, etc. by technical experts. Trainees work full time with BCT on its porject site and at the same time provide training to village communities including women and farmers.**

- **Inputs supplied include: seeds and seedlings from BCT's nurseries; implements including tractors in small numbers; rigs.**

Sites of SF/WD Field Projects

BCT has established the following farms around Yelamanchili in Andhra Pradesh:

Panchadarla Farm, Dharpalem. This is a 50 acre demonstration farm that has been planned, executed and managed by BCT for employment generation through fodder farming, dairying and plantation development of species like bambao, eucalyptus, subabul, casuarina, cashewnut, besides fruit trees. Government land has been acquired on a 20-year lease. Funds have been obtained from EZE, West Germany, OXFAM (U.K.), and Canara Bank.

Gokiwada Farm, Gokiwada. Here 44 acres of land belonging to farmers has been planted over with fruit and fodder species and eucalyptus with some intercopping with vegetables. The local community has been involved in the implementation of this project with the help of BCT and bank finances (Bank of India).

Haripuram Farm, Haripuram. This is an income-generating programme for the landless which includes undertaking plantations of a variety of species (acacia, cashew, silk, cotton, subabul, eucalyptus, mango, casuarina) over 50 acres of land. Other activities envisaged include processing of products. The farm covers 50 acres of Government land which has been acquired on a 20-year lease. The project is being funded by BCT.

Gorela Dharmavaram Farm, Gorella Dharmavaram. Villagers are implementing this plantation project with guidance from BCT. It is a commercial project in the shape of a limited company with 58 acres of privately owned land as share capital. All the directors of this public-limited company are women, and the federation of Mahila Mandals (Mahila Samakhya) is providing a loan of Rs. 30,000 for its development. Funds are also coming from the NWDB and BCT.

Hitakarini Samstha is BCT's latest wasteland development project. In this programme, farmers owning wasteland have formed a cooperative with funds coming from farmers themselves and profits being shared in proportion to their contributions. BCT is providing the technical knowhow.

Nursery Raising Project. Mahila Mandals have taken up nursery development on privately owned lands. Finances are being obtained from Hope International, Canada.

Programmes that Benefit Tribals or Women Specifically

There have been no programmes that were aimed at tribals specifically. Women have taken up a number of BCT-introduced programmes in villages and, in fact, all the active village-level organisations belong to women's groups. Mahila Mandals are making an important contribution to wasteland development. A Mahila Mandal Samakhya, a federation of Manila Mandals at the village level, has been formed. Under a Thrift Scheme, thrift societies have been started with women representatives from various villages.

- The nursery raising programme has been undertaken exclusively by women. 5,80,000 saplings were raised in 1985.

- The Gorrela Dharmavaram plantation project is being implemented by women who have, in addition to working in in the field, raised a portion of the finances for the programme.

- The latest project, Hitakarini Samstha, aims to promote wasteland development throught, and for, the poor women.

NGOs/Voluntary Agencies and Other Community Groups with Whom the P Group has Interacted in SF/WD Programmes

BCT has interacted with nine NGOs (listed below) in projects involving plantation development. NGOs have been trained by BCT and have visited the P Group's project sites. SEWA, Ahmedabad, has recently approached BCT for assistance in implementing a Social Forestry programme.

Spandana, District East Godavari, A.P. (earlier part of BCT. Has now set up an office in Polavaram to implement Social Forestry schemes).

Gram Vikas, Behrampur, Orissa (sent a team to BCT to study their programmes).

Tagore Society, Calcutta (sent team of experts to BCT project sites).

ARTIC, District Srikakulam, A.P. (sent people for training to BCT).

YARD, District Srikakulam, A.P. (group started by a previous BCT member. YARD's members trained by BCT).

Shakthi Organisation, Ramapachodavaram, District West Godavari, A.P.

Gram Vikas Samstha, Punganur, District Chittor, A.P.

Gram Pragathi Samstha, Palamaner, District Chittor, A.P.

SEWA, Ahmedabad

BCT has also worked with Mahila Mandals from four villages - Narsapuram, Dosuru, Coppugundapalam, and Vakapadu in Yellamanchili. The P Group has worked directly with farmers in most of its projects.

Perception of NGO Strengths and Failings in Relation TO SF/WD

Strengths

- NGOs have the capacity to mobilise communities, in which the Government extension agencies are failures.

- Some NGOs, like BCT, are very professional at projects they undertake, for they have been able to attract experts, mostly from the Government.

Failings

- NGOs lack the funds to undertake SF/WD.

Method/System (If Any) of Evaluating the P Group's Own Work

Three BCT's projects - Panchadarla, Gokiwada and Haripuran have been evaluated by visiting experts.

Success in Eliciting Community Participation in SF/WD Programmes

Community participation has been gained in the Gokiwada and Gorrela Dharmavaram projects, the nursery raising programme, and to some extent, in the Haripuram project.

In the Gokiwada project, farmers who owned the land approached BCT to help them develop it along the lines of the model Panchadarla farm. BCT now

employs these farmers in plantation work. Similarly, Haripuran is being developed by the P Group, using hired, landless labourers. Villagers of Gorrela Dharamavaram bought 98 acres of wasteland from the Nizam and contacted BCT to take it up for afforestation. Men and women are now working on the land, clearing weeds, bushes and stones in preparation for plantation.

Women have been raising seedlings/saplings of trees suitable for wasteland development in nurseries set up in villages under BCT's supervision.

Perception of the Work and Role of Forest Department and other Official Agencies in Supporting SF/WD Work of NGOs

BCT feels that the Forest Department has a definite role to play in helping NGOs, as in raising seedlings.

BCT itself does not seem to have a very vibrant relationship with the Forest Department, which has hardly been involved in BCT's projects. Individual forest officials, had however, helped BCT in the past.

Local level Government officials can often obstruct schemes, even if their superiors at the district, state or central level had approved. At BCT's Panchadarla Farm, where 50 acres had been released for plantation development, the Patwari of the area took his time in measuring it, causing unnecessary delay and harassment. Another case is that of the Gokiwada Project which was initially refused registration by the Government.

The Government-controlled media is not used adquately in publicity and promoting plantation activity.

Social, Legal and Political Problems in Carrying out SF/WD Work

Securing funds from banks has posed a big problem. The Gokiwada Social Forestry Project had been stalled for want of advances from a bank which had initially promised finances. In the first two years, small sums of money were released. Later, the bank started raising technical objections and withdrew support completely. BCT has had to put in its own funds to keep the project going.

Willingness to Broaden Interaction with NGOs in SF/WD and Relevant Terms and Conditions

As BCT's past field record demonstrates, it is most willing to interact with NGOs in implementing SF/WD programmes.

MYRADA

Address: 49, Richmond Road, Bangalore 560 025, Karnataka

Contact Person: Aloysius Fernandes, Director

Areas of Expertise and Support Capabilities in Fields Related to SF/WD

Expertise

- Soil and water management
- Dryland farming
- Afforestation
- Biogas technology

Support Capabilities

- Development of project proposals for appropriate models of social forestry to suit local conditions and requirements.
- Advice on nursery raising
- Advice on soil and water conservation techniques e.g., contour bunding
- Surveys: land capability, contour, ground water, etc.
- Mobilising community organisations.

Sites of SF/WF Field Projects

Myrada conducts its Social Forestry/Wastelands Development projects as an integral part of its mainstream Resettlement and Integrated Rural Development Projects. Titles and locations of these projects are indicated below.

Resettlement of landless persons at Kadiri (Ananthapur district, Andra Pradesh). 2,000 acres.

Resettlement of repatriates from Sri Lanka at Kookal Village (Madurai district, T.N.). 360 acres.

Resettlement of bonded labourers at Kongahalli Village, Talavadi Block (Periyar district T.N. 200 acres.

Resettlement of landless persons at Madakasira (Ananthapur district, A.P.). 2200 acres.

Brahmagiri Tribal Resettlement Programme at H.D. Kote Taluk (Mysore district, Karnataka). 360 acres

Garga Forest Resettlement Programme at Holalkere Taluk (Chitradurga district, Karnataka). 10 acres.

Afforestation on Kudineerkatte Hills of Holalkere Taluk.

Social Forestry in two villages of Athani and Chikodi Talukas.

MYRADA is also involved in a number of integrated rural development projects that have a social forestry component including a number in the Khasi and Garo Hills district of Meghalaya.

Most of the above-mentioned projects have been carried out on D Class land/degraded forest land. Some resettlement forestry projects have been on revenue lands. "Hills forests" and "graveyard forests" have also been developed.

Programmes that Benefit Tribals or Women Specifically

MYRADA has carried out resettlement of tribals on revenue land with forest-based occupations at Madaksere, Brahmagiri, Kadiri and Talavadi.

NGOs/Voluntary Agencies and Other Community Groups with Whom the P Group has Interacted in SF/WD Programmes

Some groups who have received assistance from MYRADA in SF/WD are: the NSS, Tirupati, Arthika Samata Mandal, Deccan Development Society, Village Reconstruction Organisation. The P Group has offered consultancy services in agro-forestry to some eight NGOs in Andra Pradesh.

MYRADA had interacted with communities it has helped to resettle through its integrated development projects. These have been listed in an earlier section.

Perception of NGO Strengths and Failings in Relation to SF/WD

MYRADA's experience has been that there is no "failing" that cannot be overcome given goodwill, sincerity of purpose and perseverance. Therefore, it does not believe in dwelling on NGO failings. NGO strengths in terms of closeness to the local community and spirit of idealism are well known.

Method/System (If Any) of Evaluating the P Group's Own Work

Each project is "managed" on a professional basis with strict accountability in financial terms. However, there is no independent evaluation of the socio-techno-economic success of the projects. Time overruns are common since schedules for completion of particular phases of the project are dependent on numerous "external factors" such as cooperation from local Government, physical (natural resource) factors such as rainfall and disease.

Success in Eliciting Community Participation in SF/WD Programmes

All MYRADA SF/WD projects involve the beneficiaries as a major component of the work force. Land Cooperative Societies have been formed. Such societies may manage woodlots developed for providing for local needs as well as commercial sale.

Perception of the Work and Role of Forest Department and Other Official Agencies in Supporting SF/WD Work of NGOS

MYRADA has received excellent cooperation from the highest levels of the Forest Department hierarchy. It has also got reasonable cooperation from the DFOs in Bangarpet, Tumkur, Chitradurga, Kanakapura and HD Kote, all of whom were approached for assistance in translating the high level cooperation into specific project work at the local level.

Social, Legal and Political Problems in Carrying out SF/WD Work

The main problem is interference from petty bureaucrats in applying local level rules and regulations connected with credit disbursement. There have been a few instances of vested interests physically intimidating MYRADA Director and staff "on site".

Willingness to Broaden Interaction with NGOS in SF/WD Relevant Terms and Conditions

The P Group is quite willing, subject to availability of financial support and convenient scheduling that allows the required professionals, to leave current commitments. It would also be preferable if the NGOs concerned were based in one of the Southern Indian states.

Auroville Land Service/Forest Group, Auroville Trust

Address: P. O. Kottakuppam, Tamil Nadu 605 104

Contact Person: Peter Clarence Smith, Jean Pouyet, Auroville Forest Group Coordinators

Areas of Expertise and Support Capabilities in Fields Related to SF/WD

Expertise

- Management of soil, water and solar energy resources on a watershed basis, soil and water conservation - field bunds, percolation ponds.

- Afforestation of wasteland areas receiving from 600 mm. to over 2000 mm. of rainfall annually, with multispecies, multipurpose plantations, agrofrestry.

- Nursery raising and propagation of saplings.

- Identification of the main species useful for wasteland reforestation projects in south India.

- Watershed management principles are applied to development projects i.e., proper laying of raods, integration of impervious surfaces into a larger plan for maximum rain water utilisation, zoning according to land capability and potential.

- Renewable energy technology.

Support Capabilities

- Ability to provide seeds of fast growing Acacias (A. auriculiformis, A. holocericea) in large numbers; seed exchange programme; supply of

seedlings; they have been providing fruit tree seedlings of Mango, Jackfruit, Tamarind to neighbouring villagers as also bare root seedlings of Acacia auriculiformis.

- Training facilities for four to five people at a time. Workshops are held for NGOs in Auroville to enable them to see the work done on afforestation, soil and water conservation, and organic farming. Participants are exposed to each step of plantation raising from nursery development through bunding, pit digging and planting to maintenance/after-care.

- Visists to other proposed SF/WD project sites are undertaken by Auroville representatives to advise on technical and field matters related to plantation work. Such visits have included: an eco-development camp at Ambur, North Arcot, organised by Community Action for Development; the Social Forestry Information Project programme at Tirupattar; the Palni Hills Conservation Council at Kodaikanal; and a Tibetan refugee settlement at Mungod in Karnataka, among others.

Sites of SF/WD Field Projects

- Village Thiruchitrambalam and Pattanur. Plantations of mixed species have been carried out on 24 hectares of paramboke land (old Panchayat common land now under the control of the revenue department) with the help of the T.N. Forest Department (TNFD). The scheme has been sponsored by Swedish International Development Agency.

- Village Edayancharachi, Irumbni, Thiruchitrambalam and Pattanur. Mixed species have been raised on 45 acres of paramboke land. The programme has been executed for the Tamil Nadu Government under the NREP.

- 2,000 acres of wasted, marginal land belonging to Auroville in Vahur Block, South Arcot district of which 500 acres are under permanent forest.

- Water conservation over 2,500 to 3,000 acres of public and private lands.

- Bunding on 500 acres of private village land.

- Deepening and repair of five village ponds at: Two Banyans, Kullyapalayam, Pitchamdikulam, and Auro dam with plantations along ponds and roads.

Programmes that Benefit Tribals or Women Specifically

No programmes specifically for tribals or women.

NGOs/Voluntary Agencies and Other Community Groups with Whom the P Group Has Interacted in SF/WD Programmes

- Community Action for Development, Tamil Nadu (participated in an eco-development camp organised by CAD).

- Social Forestry Information Project, Tirupattur.

- RUSA, Christian Medical College, Vellore.

- Jo Holman Boys Towns Afforestation Project in the Madurai area (help in proposed plantation of five lakh seedlings of mixed species on privately-owned village land).

- Madras Crocodile Bank Trust (help in raising five acre village pond plantation.).

- Nila Kotai Gandhi Gram, Anna district (advice provided on water conservation techniques).

- AFPRO, Delhi (K. Siva Prasad, Social Forestry Specialist, visited Auroville to see plantation techniques).

- Palni Hills Conservation Council (consultancy in drawing up a project of shola forest regeneration in Kodaikanal water supply reservoir).

Perception of NGO Strengths and Failing in Relation to SF/WD

Strength

NGOs have been working dedicatedly and closely with villagers, largely in social service programmes. Such programmes are useful in providing a possible platform to motivate farmers to take up SF/WD.

Failings

NGOS lack the technical know-how involved in implementing SF/WD species propagation, protection measures. Most of them have no practical experience of raising plantations in the field.

Most NGOs have been discouraged by the obstacles in the way of implementing SF/WD programmes dealing with local vested interests, problems of securing land and funds, and having to deal with redtapism and corruption in the bureaucratic setup.

Method/System (If Any) of Evaluation of the P Group's Own Work

- By considering the survival rate of trees in one to three years after plantation.

- Monitoring rates of growth of different species under varied conditions.

- Evaluation by external experts such as Professor Madhav Gadgil, of the Indian Institute of Science, Bangalore.

Success in Eliciting Community Participation in SF/WD Programmes

Very successful in eliciting community support (particularly small and marginal farmers) from neighbouring villages in eco-development and agro-forestry programmes.

Perception of the Work and Role of Forest Department and Other Official Agencies in Supporting SF/WD Work of NGOs

Although the Forest Department has the technical knowledge and the support capabilities to execute SF/WD, it usually chooses to implement programmes that are easier to complete. For example, the Department would promote monoculture or eucalyptus on a large tract of land, rather than develop a number of small plots with mixed plantations, a task that would involve convincing and working with farmers.

Individual forest officers (DFOs) have been helpful in sharing their information and knowledge. However, they get transferred out. On the whole, professional foresters are not inclined to work in partnership with non-professional NGOs or community groups. Other governmental programmes such as NREP and RLEGP are beset with corruption. Even though it is the stated policy to involve NGOs in the implementation of Social Forestry schemes, Government officials have no idea how they are meant to work with voluntary agencies and in fact, tend to regard their motives with suspicion, viewing them as trouble makers, agitators, even extremists, or as people playing around with foreign church funding.

Very often funds are not provided by Government departments/agencies at the appropriate time due to bureaucratic bottlenecks. For instance, if seedlings are not supplied by the Forest Department, and planted at the beginning of the rainy season, the survival rate of plants would be low.

Social, Legal and Political Problems in Carrying out SF/WD Work

The greatest problem is that of securing village common land (paramboke) for SF/WD because such land is under the jurisdiction of revenue authorities, Panchayat authorities and de facto users (encroachment, grazing) like different social/caste groups of the same village.

Establishment of perennial plants on a permanent basis calls for sustained cooperation for protection by all those involved, directly or indirectly. This is an exceedingly difficult task.

Willingness to Broaden, Interaction with NGOs In SF/WD and Relevant Terms and Conditions

The P Group is willing to work more intensively with NGOs that are serious about implementing the programme. Four or five people at a time could be received by the P Group, for an exposure to successful plantation techniques. Auroville also offers consultancies in its fields of expertise anywhere in the country.

The only condition is that all expenses (accommodation, travel and stipend) be borne by the concerned NGO. The P Group's limited manpower and already heavy commitments are some constraints that do not make it always possible to help as many NGOs as it would like to have assisted in SF/WD.

The Bharatiya Agro Industries Foundation (BAIF)

Address: "Kamdhenu", Senapati Bapat Marg, Pune 411 016, Maharashtra

Contact Person: Dr. Manibhai Desai, Managing Director and Trustee

Areas of Expertise and Support Capabilities in Fields Related to SF/WD

Expertise

- Dryland farming

- Water resources development: lift irrigation, watershed management and planning, run-off water harvesting. BAIF has a Water Management Division that has taken up and completed about 15 lift irrigation projects with a toal command area of about 4,000 acres in Haveli Taluka of Pune district. BAIF has also completed three projects for harvesting of run-off rain water and impounding it in nullahs through the construction of storage structures.

- Soil survey: contour mapping, bunding and management.

- Afforestation: Germplasmn collection and evaluation; plant nursery development seed production of nitrogen-fixing species (a total of 90 species) particularly subabul; specialisation in subabul management: conditions, inputs and planting techniques required for optimal growth rates both under irrigated and rainfed conditions, expected yields in various situations and cropping patterns: selection of suitable strains of Rhizobium and production of innoculants for leguminous tree species; testing of subabul and other species for use as fodder.

- Development of wood-based products such as charcoal, timber (for furniture), to improve the marketing/market-ability of tree produce.

- Installation of gobar gas plants and promotion of other forms of bio-energy - gas from waste matter.

Support capabilities

- Technical support in SF/WD is provided. BAIF's approach is area specific and problem-oriented for which appropriate technology is devised. Many of BAIF's 1,200 staff members have a great deal of technical expertiese especially in management practices. The P Group has laboratories equipped with modern equipment, facilitating quality research for rural development.

Equipped with the appropriate technology, BAIF has carried out afforestation over 500 acres of marginal wastelands including degraded hill slopes and saline lands in different agro-climatic zones. An example is BAIF's project on socio-economic rehabilitation of tribals in Bansda Taluk, Valsad district of South Gujarat. Here, one hectare plots have been allotted to tribal families. The whole area has been surveyed and a land use plan prepared by the P Group's technical team. This has involved land shaping, contour bunding, terracing, live hedge fencing and pit digging for establishement of timber, fruit and fuelwood species. An innovative, cheap method has been devised for irrigation-harvesting runoff water in nullahs by plugging with old, soil-filled cement bags in the post-monsoon period. Water stored behind such barriers has been pumped up to the plantation plots. Trained field staff have been given the responsibility of guiding particular groups of participating families. Effective back-up support in soil conservation, water management, forestry, etc. is provided by experts through periodic field visits. Along with technical support, techno-management systems are developed as an integral part of BAIF'S operations.

- Training is provided to voluntary agencies.

- Supply of inputs such as: seeds at low cost; Rhizobium culture; horticultural seedlings; cattle and poultry vaccines; cattlefeed using non-conventional materials; mineral mixtures for cattle; and frozen semen. Information on all the above-mentioned subjects is also provided

BAIF'S Uruli Kanchan farm supplies fuelwood and timber to farmers in surrounding villages, and subabul seeds to organisations all over the country. In addition, wood is supplied to paper mills.

- Installation and promotion of biogas plants. The Government of Uttar Pradesh has requested BAIF to set up biogas plants in some districts in which it has been operating.

- Introduction of other forms of bio energy. Among the Warli and Madhav Kohli tribals of Valsad district, Gujarat, BAIF has introduced the use of leaves, twigs, vegetable crop residues for obtaining cooking gas. Wood gasifiers have been installed, which are fed with such materials.

- Development of publicity material and conducting awareness raising programmes, as is being done in the Tribal Rehabilitation project in Valsad district of Gujarat.

Sites of SF/WD Field Projects

BAIF has undertaken Social Forestry in its campuses at:

- Uruli Kanchan near Pune - 400 acres. Here they have established a forest of giant subabuls planted along with fruit and other crops as a demonstration project.

- Wagholi near Pune - 260 acres.

- Kanchanwadi near Aurangabad - 125 acres. A successful rainfed subabul plantation has been estalished on highly degraded land.

- Shiradon, district Usmanabad - 350 acres

- Nanodra, district Ahemadabad - 400 acres

- Kadod near Bardoli, District Surat - 200 acres

- Lakkihalli, District Tumkur, Karnataka - 500 acres. In the same village, sababul has been planted on 25 acres of moisture-deficient village grazing land.

In addition, BAIF has undertaken the following projects, some of which have been sponsored by the corporate sector:

- Gokak Falls, District Belgaum, on 125 acres belonging to Godak Mills. Water management followed by afforestation was taken up on this dry terrain.

- Bansda Tribal Development Project, Taluka Bansda District Valsad, Gujarat. The aim of this project was to bring 1,000 tribal families of 15 villages in the area, out of poverty on a permanent basis by involving them in raising plantations (among other activities) on wastelands, made available by the State Forest Department. Another 1,000 hectares of degraded land is being secured from the State Government for plantation of forest trees through the active involvement of tribal families.

- Campus of INDAL, Belgaum 100 acres

- Campus of Maharashtra Gas Cracker Unit, IPCL complex, Nagothana 150-200 acres.

- Bestan near Surat on 100 acres belonging to the Mafatlal Group of industries.

- Chitrakoot, U.P., sponsored by Sadguru Seva Sangh Trust.

- Uruli Kanchan, District Pune. School children of Mahatma Gandhi Vidyalaya were encouraged by BAIF to undertake subabul plantations both in the backyards of their residences and in fields owned by their families. About 12 lakh subabul trees have thus been raised.

The SF/WD projects of BAIF have been on lands allotted to it by State Governments and industrial houses.

Programmes that Benefit Tribals or Women Specifically

The Bansda Project is a tribal development programme with special schemes for women. The P Group is developing this programme as a model for wastelands reclamation by tribals. Produce of the land has been made available to the tribals by the Gujarat Government through the Forest Department. Wages are being paid to the tribals under NREP. The one hectare provided to each tribal has been split into two sections: on one-and-half acres are grown species suggested by the Forest Department such as teak, casuarina and salai; on the other acre, fruit trees, intercropped with vegetables, are grown.

Special programmes have been undertaken to involve women. Tribals have a tradition of "Wavli", which is an income-generating activity taken up exclusively by women, in which the women retain total control of the income earned. Since April 1986, nursery raising has been introduced as a Wavli activity.

The 1,000 families participating in the Tribal Rehabilitation programme have been divided into about 50 groups of about 20 families. Fifty women representatives from these 50 groups from the women's Ayogan Samiti, that meets and discusses the whole nursery development plan. BAIF assists the women in identifying suitable sites, procuring plastic bags and seeds and training. Fifty group murseries in the Wavli pattern have thus been established in 15 villages of Bansda. Each nursery will produce about 20,000 saplings. The scheme has been covered under NREP through the District Rural Development Agency (DRDA). Each member earns about Rs 300 in cash and kind for raising saplings. Women would also be albe to plant these saplings near their homes and be able to meet their fuelwood/small timber needs.

NGOs/Voluntary Agencies and Other Community Groups with Whom the P Group Has Interacted in SF/WD Programmes

BAIF has interacted with a large number of NGOS and has a separate department which looks after operations involving interaction with NGOs. This includes sponsored field visits, seminars, literature distribution, mailing services, technical information services, technical information services, etc. Through its 300 cattle development centres in six states, the BAIF inter alia promotes ideas of fodder plantation development and afforestation.

Perception of NGO Strengths and Failing in Relation to SF/WD

Strength

The success of NGOs lies in their close contact with villagers, their good rapport with rural folk and their flexible approach to rural development.

Failings

Inadequate technical support to undertake SF/WD programmes.

- Vested political motives of some NGOs.
- Inadequate financial support to NGOs for undertaking SF/WD.

Success in Eliciting Community Participation in SF/WD Programmes

In most of its projects, BAIF has not sought the participation of communities. It has been implementing programmes with hired labour under the supervision of its own personnel. The only project where people's participation has been successfully elicited is in the Bansda Tribal Rehabilitation Programme where both men and women have been organised, and selected tribal leaders trained. Efforts have been made to involve the tribals in decision-making so that the programme can be sustained even after BAIF withdraws.

Perception of the Work and Role of Forest Department and Other Official Agencies in Supporting SF/WD Work of NGOs

The Forest Department has given limited help to BAIF. However, it has been by and large generous in providing seedlings to NGOs. BAIF had successfully used the students of Mahatma Gandhi Vidyalaya at Uruli Kancha, Maharashtra, to develop subabul plantations. Inspired by this programme the Education Department of Rajasthan requested the State Forest Department for seeds and saplings to distribute among school children. The request evoked no response at all.

The scope of Forest Department-NGO interaction can be furthered by expansion of the Tree Tenure Scheme for the landless and marginal farmers in which the Government leases trees to the landless though land ownership continues to be with the Government. NGOs would monitor this scheme.

Willingness to Broaden, Interaction with NGOs In SF/WD and Relevant Terms and Conditions

BAIF is willing to provide all services at cost, with no additional charges to NGOs interested in undertaking wasteland development.

VIKSAT, Wasteland Development Group

Address: Thaltej Tekra, Ahmedabad 380 054, Gujarat

Contact Person: Kartikeya Sarabhai, Director

Areas of Expertise and Support Capabilities in Fields Related to SF/WD

Expertise

- Afforestation; nursery raising, planting techniques, fooder farm management
- Water management
- Soil management
- Introduction of energy-saving technology in rural areas
- Documentation and communication
- Development, design and production of technical, motivational material, both print and audio visual.

Support Capabilities

- Technical assistance is given in terms of selection of tree and grass species, nursery and plantation methods, simple, low cost protection and after-care techniques, soil and water conservation techniques afforestation project formulation, and procedural requirements for seeking finances and acquiring public wastelands.

- Training facilities: Training programmes are undertaken at the district level in collaboration with local voluntary agencies, Gujarat Forest Department and often the State Tribal Development Commissionarate and the District Rural Development Agencies. These training programmes are attended by field workers of NGOs, Government field officers, sarpanchs, school teachers, and small and marginal farmers. The training programmes cover motivation and awareness, nursery and plantation techniques, information on availability of resources, formation and management of cooperatives including simple accounts keeping, etc. The trained workers of the agencies will be able to use the acquired skill and information to motivate the guide the farmers in technical matters involved in tree growing activities.

Eight training programmes have been organised thus far, including one for the tribal women of Surat district. The subjects have been: afforestation on wastelands, nursery operations and management, wastelands development and Tree Growers' Cooperatives, low cost soil and water conservation methods, planting techniques and Tree Growers' Cooperative Societies: formation and management. The training programmes have been attended by field level workers of NGOs, gram sevaks and sarpanchs of villages, small and marginal farmers, members of Tree Growers' Cooperatives and women.

- VIKSAT also designs, produces and supplies communication and training materials which are used for motivating villagers towards Social Foresty. Training materials are used as teaching aids for resource persons and as take-home material for trainees. The material includes:

  - Video film on nursery development
  - A slide show on nursery raising
  - A slide show on land development methods
  - Booklets and cyclostyled material on nursery raising information packages on tree cultivation, soil and water conservation methods, financial schemes, etc.

- Documentation and Communication facilities. Programmes are documented so that experiences in Sf/WD, new or improved plantation and management techniques are shared. Technical information, information on Government and non-government schemes, resource availability and ways in which these are assessed, information on formation and managment of cooperatives as well as policies and issues related to afforestation are documented in order to make them available to NGOS, Government officials and to functionaries of local self-government institutions. A process document on VIKSAT'S experiences in afforestation of wastelands in Gujarat is being prepared. Documentation of the SF/WD works carried out by other

agencies e.g., BAIF, Anand Niketan and Phadvel - the first Trees Growers' Cooperative in Gujarat for which a video film has also been made has been completed with the help of questionnaires.

- To network all those on whom initiation and implementation of afforestation programmes depend, a news letter is sent out to some 3,000 individuals, NGOs, Government functionaries, panchayati raj functionaries, research institutions, banks, etc.

System (If Any) for Access to Technical/Professional Information

Information is provided by the technical people in the P Group. VIKSAT also works closely with the Forest Department. Books, seminars, workshops, etc. are other sources of information.

Sites of SF/WD Field Projects

VIKSAT has been organising "Tree Growers' Cooperatives" of small, marginal farmers and landless labourers. These cooperatives are to carry out afforestation activities on degraded forest land to be leased to them by the Forest Department, with trees and grasses being the property of the cooperatives. Till March 1986, eight Tree Growers' Cooperatives had been initiated and for the ninth, cooperative interaction with the people of the village started. These cooperatives cover the following villages in Gujarat:

- Malekpur, Taluka Bhiloda, District Sabarkantha
- Rampuri, Taluka Bhiloda, District Sabarkantha
- Abhapur, Taluka Bhiloda, District Sabarkantha,
- Nana Dodisara, Taluka Bhiloda, District Sabarkantha
- Mota Dodisara (interaction initiated), Taluka Bhiloda, District Sabarkantha
- Bhootavad, Taluka Bhiloda, District Sabarkantha
- Chorimala, Taluka Bhiloda, District Sabarkantha
- Kubda, Taluka Kheralu, District Mehsana
- Chorwadla, Taluka Sihor, District Bhavnagar

More than 550 families are to be covered by cooperatives that will afforest some 900 hectares of degraded forest land with fuelwood, fodder, fruit and grass species. Five nurseries have been started and plantation models prepared.

Programmes that Benefit Tribals or Women Specifically

VIKSAT has been providing the technical knowhow for the operation and management of nurseries run entirely by tribal women in village Vyara, District Surat. These women beneficiaries have, in turn, transferred the acquired expertise to others. This has resulted in the establishment of some 80 plant nurseries operated by women.

Cooperatives formed with assistance from VIKSAT have raised 20 nurseries in four tribal villages - Abhapur, Nana Dodisara, Malekpur, Rampuri - of

Taluka Bhiloda, District Sabarkantha. One lakh seedlings have been provided to each village. The P Group also organised a two-day training programme for tribals, of which a video documentation has been done.

NGOs/Voluntary Agencies and Other Community Groups with Whom the P Group Has Interacted in SF/WD Programmes

VIKSAT's programme of afforestation on wastelands concerns itself directly with voluntary organisations. it has been providing technical assistance and other services to Gujarat-based NGOs and is in constant touch with several others through correspondence and field visits. It has been associatied with seven NGOs in Social Forestry/Wasteland Development.

- Adivasi Yuvak Mandal, Nana Dodisara, Taluka Bhiloda, District Sabarkantha.
- Gadhavada Vikas Manch, Kothasana, Taluka Hekralu, District Mehsana.
- Lok Bharati, Sanosra, Taluka Sihor, District Bhavnagar.
- Adivasi Seva Mandir, Shamlaji, Taluka Bhiloda, District Sabarkantha.
- Gram Sewa Mandir, Nardipur, Taluka Kalol, District Mehsana.
- Ravalyogi Uttejak Mandal, Manund, Taluka Patan, District Mehsana.
- Anand Niketan Ashram, Rangpur, District Baroda.

VIKSAT has also worked with farmers and agricultural labourers of those villages in Districts Sabarkantha, Mehsana and Bhavnagar where Tree Growers' Cooperatives have been formed and Social Forestry work undertaken.

Perception of NGO Strengths and Failing in Relation to SF/WD

Strengths

- Most NGOs exhibit a dedication, perseverance, and honesty in their work and dealings. Their flexible approach to rural development, cannot be matched by official extension agencies.

- Most grassroots NGOs remain in contact with villagers and succeed in establishing a good rapport with them. They attempt to develop an understanding of village needs, problems, potentials, and intimate knowledge of local (agricultural and other) practices and customs. Their guidance is therefore more acceptable to village communities.

- With their strong sense of idealism and commitment, they have the ability to work with minimal financial resources, even in the face of poor amenities. They are willing to stretch their (often) limited resources to the maximum extent possible.

Failings

- Lack of technical knowledge in regard to plantation work and related activities: nursery raising, choice of tree/grass species, water and soil management techniques, etc.

- NGOs' infrastructure is often too weak to undertake SF/WD programmes.

- Inter NGO interaction and coordination is poor.

- Inadequate financial resources and poor access to information regarding land, money, seed availability, etc. are other weaknesses.

Method/System (If Any) of Evaluation of the P Group's Own Work

Evaluation is only done by way of discussion at informal meetings.

Success in Eliciting Community Participation in SF/WD Programmes

Highly successful. All plantation work is being done by the Tree Growers' Cooperatives.

Perception of the Work and Role of Forest Department and Other Official Agencies in Supporting SF/WD Work of NGOs

This P Group's observation has been that Government agencies are very slack in providing land, money, seeds, seedlings and other inputs to NGOs keen to take up Social Forestry. However, VIKSAT itself has found the Forest Department officials very willing to impart technical advice. In fact, the Gujarat State Forest Department has had moderate success in involving NGOs in wasteland reclamation. VIKSAT's training programmes are undertaken in collaboration with the Gujarat Forest Department. The Forest Department has also been willing to part with land for afforestation work by the Tree Growers' Cooperatives formed by VIKSAT, and is also agreeable to providing seedlings.

Social, Legal and Political Problems in Carrying out SF/WD Work

Social Problems

The Tree Growers' Cooperatives are meant for small marginal farmers. However, big farmers also want to join them and derive benefits from them.

Legal Problems

Legal problems crop up in the process of transfer of land from the Central to State Governments in view of the Forest (Conservation) Act.

Procedural Problems

Government officials are often not available when help is required. Their attitude is one of shirking responsibility. Allocation of funds is often delayed. Although money for the transportation of seedlings is included in the toal grant given, it is actually paid much later. Beneficiaries of the SF/WD programme (poor farmers) do not have the capacity to make payments and await reimbursement.

Willingness to Broaden, Interaction with NGOs In SF/WD and Relevant Terms and Conditions

VIKSAT is willing to interact more intensively with NGOS within the constraints of limited available staff in the wasteland development project. The only condition is that the NGO follow up the SF/WD work that has been initiated.

Action for Agricultural Renewal in Maharashtra (AFARM)

Address: 3-C, Shankarshet Road, Pune 411 002, Maharashtra

Contact Person: Dr. S.R. Gujar, Chairman

Areas of Expertise and Support Capabilities in Fields Related to SF/WD

Expertise

- Water resources development: Tubewell drilling; handpump installation and maintenance; water conservation; tank construction; design and manufacture of handpumps; water quality monitoring.
- Dryland farming
- Soil conservation
- Wasteland reclamation
- Fuel and energy conservation

Support Capabilities

- Provides technical information on soil, water and vegetation conservation. It is engaged in the implementation of "Food for Work" programmes related to water resources development.

- Training is offered to NGOs on all technical issues associated with Social Forestry.

- Input supply and other facilities: seedlings; seeds, fertilisers; credit; handpump installation and maintenance; preparation of training materials for handpump maintenance including manuals, posters, lectures, information sheets on plumbing.

Sites of SF/WD Field Projects

AFARM has carried out Social Forestry programmes in the following places in Maharashtra:

- Palghar: Wasteland reclamation for and with the participation of a tribal community.

- Narayangaon: animal husbandry; fodder farming.

- Jalna: Soil conservation; water conservation; afforestation of common lands.

- Dindori: Agricultural extension; rural credit.

- Khanapur: Afforestation of a catchment area.

- Baramati: Agricultural extension; tank construction; afforestation; dry citrus cultivation.

- Sangli: Cooperative formation for plantation of fruit, fodder, fuel and other species.

- Pune: Subabul plantation.

- Ratnagiri: Implementation of COWDEP.

- Pátan: Motivating students and farmers to take up Social Forestry.

Programmes that Benefit Tribals or Women Specifically

The beneficiaries of AFARM's SF/WD project in Palghar, Maharashtra are tribals who have been actively participating in the programme.

NGOs/Voluntary Agencies and Other Community Groups with Whom the P Group Has Interacted in SF/WD Programmes

AFARM has been interacting closely with NGOs in Maharastra, providing them support especially in the development of water resources. The 11 NGOs they have assisted are:

- Marathawada Sheti Sahaya Mandal, Jalna.
- Rural Agricultural Institute, Narayangaon, Taluka Junnar, District Pune.
- Maharashtra Prabodhan Seva Mandal, Nilwandi, Dindori District Nasik
- Sahayadri Vikas Mandal, Khanapur, Taluka Haveli, District Pune.
- Agricultural Development Trust, Baramati, District Pune.
- Verala Irrigation and Development Project Society, Sangli.
- National Institute of Rural Integrated Development, Bombay.
- Gramayan, Pune
- Gokul Prakalp Prathisthan, Shivajinagar Ratnagiri.
- Kakasaheb Chavan Mahavidyala, Talmavale, Taluka Patan, District Satara.

Besides these organisations AFARM has worked with groups of tribals, Scheduled Caste people, farmers and students.

Perception of NGO Strengths and Failing in Relation to SF/WD

Failing

NGOs tend to neglect the vital task of motivating and organising village communities to undertake plantation work. This should be done before commencing, or along with, forestry programmes.

Perception of the Work and Role of Forest Department and Other Official Agencies in Supporting SF/WD Work of NGOs

The Forest Department has been reluctant to supply seedlings, therefore, most member NGOs of AFARM have preferred to raise these on their own.

The Department is unwilling to part with land for plantation work, despite existing Government schemes promoting Social Forestry. One instance cited has been when the Government asked the Forest Department to grant a barren plot for wasteland plantation to an NGO under the scheme. The Forest Department refused to part with the land on the plea that it had 28,000 trees on it.

Willingness to Broaden, Interaction with NGOs In SF/WD and Relevant Terms and Conditions

AFARM has had a great deal of interaction with NGOs and is open to further interaction. The P Group would however, like to restrict its association to only those NGOs that are free of any political controversy. AFARM takes payment for the technical services that it provides.

JIVRAJBHAI PATEL AGRO-FORESTRY CENTRE (JAFC)

Address: Surendrabag - Kardej, District Bhavanagar, Gujarat 364 061

Contact Person: V.J. Patel, Director

Areas of Expertise and Support Capabilities in Fields Related to SF/WD

Expertise

- Wasteland development through agroforestry.
- Use of Plant Growth Regulators (hormones) for planned yield.
- Water management, especially sprinklers and drip irrigation.
- Development of gasifier technology:
  100 KW gasifier based power generating unit using wood of prosopis juliflora.

Support Capabilities

- Provides technical information on high density agroforestry (HDAF) in which it has specialised and developed demonstration plantations as models.

  Their plantation technology uses modern management techniques to secure maximum productivity, as for agricultural crops. The species being propagated are: eucalyptus, Leucaena Leucocephala (subabul); Prosopis Chilensis (gando babul); Acacia Tortitilis (Israeli babul); and some others like teak, bamboo, neem, ber and mango. JAFC advocates high density irrigated tree farming (as border, strip or block plantations) with 25,000 trees packed into one heactare, spaced 50-60 cm apart. All the inputs of the Green Revolution are recommended: fertilisers (1.25

tonnes of urea per hectare, preferably in five doses, each dose after three waterings); ample irrigation (at least one watering in 20 days during winter and one every ten days in summer). A three to five year cycle of harvesting has been set. The use of plant growth regulators (hormones) are used for enhanced yield. Normal yields from eucalyptus/subabul plantations are 15-25 tonnes per hectare per year of biomass. Yields using the HDAF techniques are supposed to be substantially higher - 102.5 tonnes per hectare per year.

- Training facilities are available with JAFC and can be arranged on request.

- Publication of literature on agroforestry models developed by JAFC

Sites of SF/WD Field Projects

JAFC has a 60 acre campus at Surendrabag along the Bhavanagar-Rajkot Highway, Gujarat, on which it has developed high density agroforestry using all the inputs of the Green Revolution including irrigation and fertilisers. Experiments on agroforestry techniques are carried out on the farm so as to develop models for propagation among farmers.

Programmes that Benefit Tribals or Women Specifically

JAFC's scheme "Helping small, marginal farmers/tribals through agroforestry" is accepted by the Government of India and is included in the IRDP scheme.

NGOs/Voluntary Agencies and Other Community Groups with Whom the P Group Has Interacted in SF/WD Programmes

JAFC invites NGOs to its campus to expose them to the techniques of high density agroforestry in which the P Group is specialised. Groups of farmers and social workers have also been trained at JAFC.

Normally, no effort is made to go out into the field and propagate the JAFC agroforestry models. Published literature on JAFC's agroforestry techniques is ditributed.

Perception of NGO Strengths and Failing in Relation to SF/WD

Failings

NGOs lack the technical knowledge in regard to plantation work and have no idea of the economics of tree farming.

A number of NGOs take long to shed urban perceptions/attitudes. Inability to speak the local language poses a communication problem. Such factors are barriers in developing an intimacy with villagers. Some orientation for NGOs is required on how to integrate with village communities.

Strength

Most NGOs are honest in their intentions.

Method/System (If Any) of Evaluation of the P Group's Own Work

This is done through visual identification on a large plot and through yield data on experimental plots.

Success in Eliciting Community Participation in SF/WD Programmes

Community participation in SF/WD programmes is non-existent. JAFC is essentially a research-oriented group catering to propagation of SF/WD on lands of private farms. Therefore community action is minimal.

Perception of the Work and Role of Forest Department and Other Official Agencies in Supporting SF/WD Work of NGOs

Unlike most other State Forest Departments (who have failed in supporting Social Forestry) the Gujarat Forest Department has been involving farmers and NGOs in plantation work. Officials rendered necessary help providing seedlings and arranging training courses to those farmers who have taken to Social Forestry. At training centres, successful farmers are invited to narrate their experiences so as to motivate others to do the same. It is important that the Forest Departments in other states become "social" first, rather than distance themselves from local NGOs and farming communities. The work of other State Government departments, too, has been "very disappointing", according to Dr. V.J. Patel, Director, JAFC.

Social, Legal and Political Problems in Carrying out SF/WD Work

JAFC has faced no such problems.

Willingness to Broaden Interaction with NGOs in SF/WD and Relevant Terms and Conditions

JAFC is anxious to render help to NGOs interested in afforestation. Help is rendered free of charge. The only condition is that the NGO share the technical knowledge it had gained (through interaction with JAFC) with other NGOs involved with SF/WD work.

Gram Vikas (GV-O)

Address: P.O. Mohunda, Via Berhampur, Orissa 760 002

Contact Person: Joe Madiath, Director

Areas of Expertise and Support Capabilities in Fields Related to SF/WD

Expertise

- Irrigation and water management
- Wasteland Development. Experts in both areas: Pornachandra Pradhan, Pramod Pradhan, Padeep Singh Radhakant Das.
- Promotion of energy-saving technology-biogas and smokeless chulhas.

Support Capabilities

- Technical information in fields related to Social Forestry.

- Training facilities. Gram Vikas has trained a number of members of local communities in nursery raising and tree planting. Some of them are working with the P Group. The Group has teams of animators in nine out of 13 districts of Orissa. Gram Vikas also trains animators in construction of biogas plants. One hundred and twenty-five training courses have been held for biogas masons. The P Group also trains village youth in installation of smokeless chulhas.

- Inputs: Implements required for Social Forestry work are supplied. Gram Vikas is currently building up a number of nurseries for supply of seedlings. In the meanwhile, seeds are being obtained from Government or private sources and distributed among farmers. Gram Vikas also sets up biogas plants, in which activity it has established a record in Orissa. Three thousand biogas plants of various sizes have been constructed in Orissa, including 12 community plants. Apart from training personnel in biogas plant construction, Gram Vikas also helps to secure loans from banks for potential owners of plants. The P Group also promotes and installs smokeless chulhas. About 5,000 such chulhas have been installed in seven districts.

Sites of SF/WD Field Projects

Gram Vikas has carried out Social Forestry programmes in the following tribal villages of Subdivision Berhampur, District Ganjam, Orissa, in three blocks of the Kerandimal Hills:

- Tamana, Block Kukadakhandi. Thirty-five acres of common land has been afforested. A separate ten acre plot has been set aside for plantation by women.

- Horodabadi/Harabadi, Block Chikiti. Fifteen acres of village common land belonging to 14 Khond tribal families are being developed for Social Forestry.

- Tinigoria, Block Digapahandi. Thirty acres of common land have been allotted to 15 Khond families for wasteland development with ten acres being reserved for women.

- Buruda, Block Digapahandi - five acres.

- Chonobogada, Block Digapahandi.

- In a new project started in these areas, Gram Vikas is undertaking plantations of fuelwood, fodder, fruit, bamboo and thorny tree species on 100 hectares of wasted lands belonging to some 250 families. The P Group is educating the people about environmental problems, planting and maintenance of trees and the economics of tree farming. It is also training nursery and tree growers selected from the local population. Gram Vikas' SF/WD work has been carried out on revenue, common and forest wastelands. Private lands have not been used so far. Funds for the projects have come from: The National Wastelands Development Board; the women's wing of the Ministry of Labour (for SF/WD work exclusively by women); District Rural Development Agency, Ganjam; and OXFAM, America. Bank loans have been acquired for the construction and installation of biogas plants.

Programmes that Benefit Tribals or Women Specifically

Gram Vikas' whole SF/WD programme is for the benefit of the Khond tribals of the Kerandimal Hills, District Ganjam, Orissa. In 14 tribal villages, the work is being undertaken exclusively by tribal women. On plots set aside for them, women do the entire work from clearing the land to pit digging, raising nurseries, planting and protection. The benefits are shared among the participating women.

NGOs/Voluntary Agencies and Other Community Groups with Whom the P Group has Interacted in SF/WD Programmes

Gram Vikas has collaborated with a number of Delhi-based organisations in Social Forestry and related fields:

- PRADAN
- Indian Social Institute
- PRIYA
- AFPRO from whom the technical capability to install biogas plants was acquired.

Gram Vikas has also interacted with BCT, Andhra Pradesh. The P Group has been working extensively with the Kerandimal Khond tribals in Orissa, interacting with them individually as well as through village-level committees (Kerandimal Gana Sanghatanas), youth groups (Yuvak Sangams) and women's groups, many members of which are trained tribal health workers.

Perception of NGO Strengths and Failing in Relation to SF/WD

Strengths

NGOs work very closely with communities and are able to elicit their participation in programmes by inculcating the feeling in them that the projects are their own. The Government machinery is unsuitable to undertake this task, especially since the few committed officials change too frequently to implement any programme on a sustained basis.

The NGO machinery is not cumbersome and expenses involved in implementing programmes are far lower than those required by Government agencies.

Failings

NGOs work in limited pockets, therefore their impact remains local.

Resources constraints are many: paucity of funds, land for SF/WD, trained personnel.

Method/System (If Any) of Evaluating the P Groups's Own Work

The evaluation of these SF/WD programme is done by village level committees during their weekly village meetings. According to Gram Vikas, the ultimate yardstick for the success of the programme will be the total involvement of the people in afforestation of the denuded Kerandimal Hills that would meet their timber, fuel and fodder needs on a sustainable basis.

Success in Eliciting Community Participation in SF/WD Programmes

Gram Vikas considers community participation absolutely essential for the successful implementation of SF/WD work. The P Group has successfully involved tribal communities in all its programmes. In the current year, for example, the P Group is undertaking SF/WD on more than 700 acres of land. One member of Gram Vikas is coordinating the entire programme while the rest of the operations are carried out by village committees, including supervision.

In Village Tamana, plantations on the village common land are cared for by tribals themselves who are paid wages by the village forestry committee which is financed by Gram Vikas, which, in turn, is funded by DRDA.

In its smokeless chulhas programme, village youth are trained by the P Group and the actual installation in various tribal homes is done by these youths themselves.

The P Group has organized tribals to form village level committees and a regional level Kerandimal Gana Sanghatana, both of which function as decision-making bodies.

Perception of the Work and Role of Forest Department and Other Official Agencies in Supporting SF/WD Work of NGOs

- Forest Department is, unfortunately, a "department of deforestation" and therefore the wrong agency for SF/WD work. Tribals view the Department as their greatest enemy, after the police! In some cases, the Department has not supplied saplings. Therefore, Gram Vikas is setting up its own nurseries to reduce dependence on the Forest Department.

- The Department for implementing Social Forestry/Wasteland Development should have been the Department of Environment, which, being a new department, is not bound by taditions that handicap the Forest Department's functioning.

- The Government machinery cannot make the people feel that the Social Forestry programme is theirs. Concerned officials, especially committed ones, are transferred too often to produce long term results. The Government machinery is too cumbersome. Acquiring land from the Government is very problematic.

- The Orissa Renewable Energy Development Agency, however, has been very supportive of Gram Vikas' biogas programme.

Social, Legal and Political Problems in Carrying out SF/WD Work

The greatest problem is that of acquiring wastelands for plantation work, even for unsufructory rights. Most of the wastelands are within forest lands and there are far too many legal hurdles in utilizing these for plantation development. Even if the State Government has allotted land for SF, the plots have been too small for effective plantation activity.

Gram Vikas has been making attempts to get Government agencies at the local level to identify wastelands for implementation of SF/WD programmes. Despite instructions from the NWDP, it has been next to impossible to get the cooperation of the tehsildar and other officials in this regard.

Willingness to Broaden Interaction with NGOs In SF/WD and Relevant Terms and Conditions

Gram Vikas is willing to interact with other NGOs. It has no terms and conditions. It is prepared to provide help in planning training and offers all facilities at its disposal for SF/WD programmes.

Professional Assistance for Development Action (PRADAN)

Address: 250 - G, DDA MIG Flats, Rajouri Garden, New Delhi 110 027

Contact Person: Vijay Mahajan, Executive Director

Areas of Expertise and Support Capabilities in Fields Related to SF/WD

Expertise

- Afforestation
- Wasteland development.
- Soil and water conservation.

Included on their staff are four agriculture graduates, two engineers and two non-technical persons who contribute to SF/WD work.

Support Capabilities

PRADAN assists NGOs in conceptualising, formulating, implementing, monitoring and evaluating SF/WD projects. PRADAN professionals are posted with NGOs. They stay on the project site(s) and get integrated with host NGOs for periods of one to four years, depending on the requirements of the project or NGO. The idea of such on-the-spot, long term project management assistance is that the NGOs themselves acquire the technical and management skills involved in forestry.

Other modes of assisting NGOs are now being considered:

- Short-term help in project formulation.
- Short-term help on specific technical issues such as species selection, planning soil and water conservation measures.
- Designing training programmes.
- Producing training/documentation material.

Sites of SF/WD Field Projects

- Rangpur, District Vadodara, Gujarat: Managing Anand Niketan Ashram's Social Forestry Project funded by ICCO/CIDA

Banswara, Dungarpur and Udaipur Districts, Rajasthan: Working on an SF project with Association for Sarva Seva Farms (ASSEFA).

Udaipur: Assisting Seva Mandir with its forestry programme.

Gulbarga, Karnataka: Helping in MYRADA's watershed programme.

Bahl area, Ahmedabad District, Gujarat: Working with MAHITI in experimentation with various salt-tolerant species.

Purulia, W. Bengal: R.K. Mission's Kalyan Project

Periyar District: In MYRADA's Talavadi Project.

Madurai, Tamil Nadu: Assistance in ASSEFA's Project.

NGOs/Voluntary Agencies and Other Community Groups with Whom the P Group Has Interacted in SF/WD Programmes

PRADAN works mostly with NGOs in SF/WD projects. The manner in which it assists NGOs is discussed in the preceding section along with the names of NGOs with whom it has interacted. In addition, PRADAN has worked with India Development Service, Medleri and Deendayal Research Institute, Gonda.

Perception of NGO Strengths and Failing in Relation to SF/WD

Failings

- Most NGOs have neither the technical nor management capabilities to undertake Social Forestry projects on a large scale.

- NGOs, in most cases, are unable to utilise available Government resources such as funds, land, plants, etc.

Strengths

- NGOs have good grassroots contacts as well as extension workers who, if properly trained and motivated, can learn the essential techniques of SF/WD. Some agencies like NYRADA, Gram Vikas and ASSEFA, also have good access to wastelands.

Training for NGOs should neither be in the form of a traditional, short-duration, classroom type of course, nor the consultancy, advisory, report-writing type of exercise. Professionals must stay on and work with the NGO staff (as PRADAN professionals do) for at least two planting years for the training to be effective.

Perception of the Work and Role of Forest Department and Other Official Agencies in Supporting SF/WD Work of NGOs

PRADAN has had a fairly good association with the Forest Department. Officials have been extremely cooperative in Gujarat, providing seeds, polybags, saplings, grants for pit digging, fencing, etc. Similar help has also been forthcoming from Bihar, Maharashtra, Karnataka, Tamil Nadu and Rajasthan. In Madhya Pradesh, it has been more difficult, mainly because of land issues.

However, it is not that easy to get cooperation from department officials. For instance, it takes several visits before one can build up rapport with a DFO. Usually, NGOs' access to schemes depends upon the rapport they have established with concerned officials. Due to frequent transfers of Government officials, 'rapport-building' is a big drain on the P Group's professional time.

Willingness to Broaden Interaction with NGOs in SF/WD and Relevant Terms and Conditions

Due to the full deployment of PRADAN professionals in ongoing projects, the P Group is presently not in a position to respond to requests from various NGOs. Their team, however, undergoes constant expansion. PRADAN could provide on-the-project, short-term training to NGO personnel if they could be sent to sites where PRADAN professionals are currently working.

International Forestry Consultancy (IFC)

Address: 71, VI Cross, Gandhinagar, Bangalore 560 009

Contact Person: Y.M.L. Sharma

Areas of Expertise and Support Capabilities in Fields Related to SF/WD

- Planning and preparation of project reports.

- Implementation of Social Forestry practices like farm extension, urban, recreational and agro-forestry with specific reference to local circumstances and needs.

- Stabilisation of soil in mined areas.

- Catchment area protection through soil conservation and afforestation.

- Organising forestry training and extension programmes.

System (If Any) for Access to Technical/Professional Information

The IFC has its own library and documentation system.

Sites of SF/WD Field Projects

- Afforestation, landscaping and soil conservation along the Cauvery Pipeline (75 kms.) in Karnataka.

- Afforestation of the foreshore area of Linganamakki Reservoir to prevent silting, protetion of catchment, etc.

- Stabilising slime deposit and afforestation of barren hill slopes and amenity planting at Ingaldhal Copper Mines of the Chitradurga Copper Co., Karnataka.

- Afforestation of mined areas of Kudremukh Iron Ore Co., Karnataka.

- Afforestation of mined areas for Neyveli Lignite Corporation.

Programmes that Benefit Tribals or Women Specifically

Nil. But IFC would like to see women trained as motivators to develop Social Forestry projects in rural areas.

NGOs/Voluntary Agencies and Other Community Groups with Whom the P Group Has Interacted in SF/WD Programmes

IFC has interacted with Gram Vikas in Mulbagal Taluka, Kolar District, Karnataka. Gram Vikas has been collaborating in the SF (Farm Forestry) programmes of the taluka for which IFC has been providing guidance. The P Group has assisted small farmers in the development of the bamboo resources in some villages of Karnataka.

Perception of NGO Strengths and Failing in Relation to SF/WD

NGOs and the Forest Department are unnecessarily in conflict in many cases, simply because NGOs do not understand the forest bureaucracy and the constraints under which they function. NGOs must be more patient and win the trust of local forest officials, after which cooperation will be forthcoming. On the other hand, the Forest Department must understand the tree crop needs of small farmers. For example, farmers in drought-prone areas are in need of ready money when agriculture is not profitable. Hence the need for fast growing tree species.

NGOs must act as catalysts to bring Forest Department expertise to help small farmers in SF work. The Forest Department should be quick and liberal in allocating land for NGOs to carry out WD work.

Method/System (If Any) of Evaluating the P Group's Own Work

Evaluation of wasteland development work is done by project authorities for whom the IFC works.

Success in Eliciting Community Participation in SF/WD Programmes

Most of IFC's projects in wasteland development relate to mined area reclamation and soil stabilisation through afforestation. They do not therefore, use voluntary community labour though communities benefit from the usufruct of such plantations.

Perception of the Work and Role of Forest Department and Other Official Agencies in Supporting SF/WD Work of NGOs

As discussed in an earlier section.

Willingness to Broaden, Interaction with NGOs In SF/WD and Relevant Terms and Conditions

Very willing, provided basic costs can be met.

Krishnamurthi International Agricultural Development Foundation (KIADF)

Address: No. 8, S.R. P. Colony, Cross Road No. 2, Coimbatore 641 001, Tamil Nadu

Contact Person: Prof. (Dr.) S. Krishnamurthi, Founder, Chairman and Managing Trustee

Areas of Expertise and Support Capabilities in Fields Related to SF/WD

Expertise

- Development planning.
- Land capability survey.
- Soil conservation.
- Irrigation and water management including drip irrigation systems.
- Afforestation
- Cultivation of horticultural crops like red oil palm, rubber, coconut, black pepper, etc.
- Genetics.
- Crop protection measures.
- Agricultural extension
- Fodder and forage production including subabul.

On the KIADF's staff are a soil scientist, fertiliser specialist and an agricultural chemist.

Support Capabilities

- Technical and field information.
- Training in nursery raising and plantation development; establishment of demonstration plots for training purposes.

The P Group cannot supply seedlings as it does not have its own nurseries.

Sites of SF/WD Field Projects

The following projects have been proposed:

- Project to provide a package of development programmes (including horticulture, agriculture, animal husbandry, etc.) for settlers in the hilly regions of Andaman and Nicobar Islands.

- The proposal has been submitted to the Lt. Governor of the Islands and to the Chairman of the Forests and Plantation Development Corp. Ltd. in December 1985.

- A project titled "Assistance to Swedish International Development Authority (SIDA) - Aided Social Forestry Project in Tamil Nadu" has been submitted to SIDA

Programmes that Benefit Tribals or Women Specifically

KIADF is providing consultancy services in forestry to Sri Avinashilingam Education Trust Institution, Coimbatore in their project "Pilot Project on the Involvemnt of Rural and Tribal Women in Social Forestry" being funded by SIDA.

NGOs/Voluntary Agencies and Other Community Groups with Whom the P Group Has Interacted in SF/WD Programmes

- Sri Avinashilingam Education Trust Institution, Coimbatore.

- In the proposed SIDA project in Tamil Nadu (mentioned in the preceding Section), KIADF will help Panchayats in Chingleput District in the management of forest plantations raised under the SF programmes.

- Institute of Techno-Economic Studies, Madras.

Perception of NGO Strengths and Failing in Relation to SF/WD

Strengths

- NGOs have the ability to take quick decisions and action unlike bureaucratic Government departments.

- NGOs have the capability of implementing SF/WD programmes and eliciting the participation of people especially village women, in plantation activities.

Failings

- Often NGOs want quick returns and are not keen on long-term tree crops.

- Sometimes SF extension works of NGOs are long drawn out and time consuming due to lack of professionalism. Therefore, results are not commensurate with efforts.

Perception of the Work and Role of Forest Department and Other Official Agencies in Supporting SF/WD Work of NGOs

- The Forest Department does not have a large enough staff to take up after plantation-care in community and other wastelands. It can take the help of NGOs in this.

- The Tamil Nadu Forest Department, which took up the SIDA-aided SF project in 1981-82, had no experience in extension work and therefore met with little success in assessing the needs of rural populations and ways of meeting them, including the setting up of village Social Forestry committees.

The Department can use the help of NGOs for mobilising the support of villagers.

Willingness to Broaden, Interaction with NGOs In SF/WD and Relevant Terms and Conditions

The P Group is willing to intereact more intensively with NGOs provided its expenses, and an extra 20% towards overhead charges, are paid.

Tree for Life (TFL)

Address: Head Office: 1103 Jefferson, Wichita, Kansas 67203, USA
India Office: Tree for Life (India), Nirula's L-Block, Connaught Circus, New Delhi 110 001

Contact Person: Balbir Mathur (USA), President and Executive Director,
M. Nirula (New Delhi, India)

Areas of Expertise and Support Capabilities in Fields Related to SF/WD

- Supply of fruit bearing and fuelwood trees from local nurseries.

- Research and educational services:

  to ensure planting that is suitable to local conditions, eating habits and nutritional needs

  to assist the recipients with the most appropriate technology and know-how for planting and preservation of trees

  to create awareness about the importance of trees.

- Mobilising resources of existing organisations in the USA and India (as well as other recipient countries) towards this cause by preparing descriptive materials, conducting fund-raising drives and overseeing tree planting projects.

- Creating an effective system of communication so that contributors and recipients can realize the value of their efforts.

- Documenting the programme and providing relevant information to other organisations.

Sites of Field Projects

- District Allahabad, U.P.: In cooperation with the American-sponsored Agricultural College, TFL has set up nurseries in ten schools. Trees for Life volunteers are providing students with three years of experience in how to plant and take care of trees in their areas (villages).

- Trees for Life is also helping people in several villages of Districts Allahabad and Pratapgarh to start their own tree planting projects with the expectation that each village will, in turn, help other villages get started. Over 5,000 trees have been planted on 51 acres of wasted land. Actively associated with the Allahabad project are Dr. Gauri Shanker, Head of the Department of Horticulture at the Agricultural College and Mr. R.K. Misra, coordinator of TFL in this area.

- Gwalior: An agricultural school (Rabbani School) run by an American couple for more than 200 students, is being helped by TFL to convert a part of the school's 75 acres into a productive orchard. Students are being provided with three years of education in plantation raising and

will work to help people in 20 surrounding villages to do the same. Ten thousand full trees were planted in 1985, and another 15,500 are to be planted in 1986.

New Delhi: Trees for Life is providing funding, education and management to a colony of 75 people afflicted with leprosy, in order to convert 15 acres of their idle land into productive orchards.

Utthan - Mahilti Team (MAHITI)

Address: 83/387, Saraswati Nagar, Near Himmatlal Park, Ahmedabad 380 015 and Mahiti Project, Opp. Bhimtalav, Post Dholera, Taluka Dhandhuka, District Ahmedabad, Gujarat

Contact Person: Nafisa Barot

Areas of Expertise and Support Capabilities in Fields Related to SF/WD

Through their field work experience in the arid, saline lands of the Bhal area in the Saurashtra region of Gujarat, the Mahiti team has built up expertise in the following areas, at a micro level:

- Project planning and management
- Afforestation
- Nursery development
- Water management and irrigation
- Training
- Extension
- Documentation
- Networking

A field guide (in Gujarati and English) titled "Social Afforestation on Wasteland" has been distributed by the team. This guide consists of a number of pamphlets on subjects related to SF/WD along with guidelines on production of information material.

The P Group also has a collection of slides on the saline wastelands of Bhal; causes of wasteland formation; methods of reclaiming saline wastelands: construction of tidal bunds, planting of salt-tolerant species etc.; and nursery raising techniques.

System (If Any) for Access to Technical Professional Information

Members of the Team undertake different responsibilities, and depending upon the requirements, seek information either from outside experts or through discussions with Team members. Mahiti also has a library with books in English and Gujarati.

Sites of SF/WD Field Projects

- Villages in Bhal area, Taluka Dhandhuka, District Ahmedabad. Twenty hectares of revenue wasteland have been acquired, on which the Team has been conducting experiments in plantations, soil and water conservation techniques, appropriate salt-tolerant species etc., and also demonstrating these methods to villagers. A nursery has also been set up.

- The project has been funded by the Aga Khan Foundation.

Programmes that Benefit Tribals or Women Specifically

In three villages of the Bhal, Mahila Mandals have been encouraged by Mahiti to collect non-edible oil seeds called piloo (Salvadora persica) for their own plantations, and for sale.

NGOs/Voluntary Agencies and Other Community Groups with Whom the P Group has Interacted in SF/WD Programmes

- VIKSAT
- Aga Khan Foundation Rural Support Programme
- Behavioural Science Centre
- Anand Niketan Ashram
- PRADAN
- SPWD

During the course of their SF/WD work in the Bhal area, Mahiti members have had to seek technical assistance from other agencies. Not all such interactions have been fruitful.

Direct interaction with village communities (including women) in the Bhal area has been taking place throughout.

Perception of NGO Strengths and Failing in Relation to SF/WDt

Strength

- The greatest strength of NGOs is their capability of motivating people through dialogue, field demonstrations and experiments conducted with the active participation of the beneficiaries.

Failings

- Lack of technical expertise.

- Lack of funds, despite the Government's elaborate schemes to promote afforestation. Acquiring finances has been particularly difficult for SF/WD work in an area like Bhal, where farmers are neither SC/ST nor marginal/small, yet exist below the poverty line and have access to large stretches of saline wasteland.

Method/System (If Any) of Evaluation of the P Group's Own Work

Evaluation is done at weekly Team meetings through discussions on the achievements, working methods, further plans and problems faced in the field by individual members. Discussions also take place during the course of the week.

Success in Eliciting Community Participation in SF/WD Programmes

Almost 70-80% of the total population of the Bhal area are potential beneficiaries of Mahiti's project because wasteland constitutes the largest share of available land resource. The P Group has had complete success in making SF/WD a community programme. In fact, a number of the Mahiti team members are from the poorest families of the Bhal. At every stage of the project planning, planting, soil working, decision-making, etc. villagers have been involved and discussions held with them on an equal basis. The villagers' knowledge about local species, planting methods, water retention techniques, has been actively sought throughout.

Perception of the Work and Role of Forest Department and Other Official Agencies in Supporting SF/WD Work of NGOs

The P Group has had very unhappy experiences in their interaction with official agencies, including the Forest Department. District and lower level forest officials are uninterested, inefficient, and lack the commitment to undertake WD in a hostile environment such as the Bhal. The result has been that the Department has failed to impart financial, technical and extension support.

The Mahiti team strongly feels that the Bhal remains backward (despite a number of special programmes aimed at developing the region) because of the unresponsive bureaucratic and political culture which exists there.

Some examples:

- The 'talatis' do not appear in their respective villages for weeks on end.

- The 'gram sevaks' under the 'Benor system' neither show up for training nor visits to the villages for which they are responsible.

- Banks do not provide loans without a substantial kickback.

- All officers look the other way when development funds go into the pockets of the local power groups.

- No forms (for the necessary paper work) are available in the Bhal (or Taluka Panchayat) for villagers to make applications for the much heralded development schemes under IRDP, DPAP, etc.

- Development officers and politicians are not available, or are not disposed to providing/disseminating information to villagers about development opportunities, schemes or procedures.

Social, Legal and Political Problems in Carrying out SF/WD Work

Social Problem

- Threat of a conflict with local graziers of the Bharwad community. However, this is unlikely to be a major problem because the village level organization plans to involve members of the Bharwad community in grass collection. In two villages, the Yuvak Mandal has started collecting grass for sale (at subsidised rates) to cattle graziers, thereby reducing the risk of confrontation with the Bharwads.

Legal Problems

- Forest laws/rules regarding rights of local people are very unclear. For example, whether or not villagers are allowed to collect driftwood, deadwood and grass; whether or not they are permitted to enter forest land, etc.

- Members of Mahiti have been running from pillar to post for the last two years in their attempts to identify wastelands appropriate for plantation programmes.

Political Problems

- Short term problems like Sarpanches taking small bribes for permitting camels, brought by nomads from Kutch, to graze on common lands.

- Long term problems, for example, 'Darbars' (local feudal lords who control the economy of the area) bringing in their army of touts to usurp forest produce during the time of harvest.

Other political problems are discussed in the preceding section.

Willingness to Broaden Interaction with NGOs in SF/WD and Relevant Terms and Conditions

The P Group is willing to interact with any NGO with whom it can exchange relevant information regarding SF/WD work. It stipulates no terms and conditions for such interaction.

Nehru Yuvak Kendra (NYK)

Address: 30 E.C. Road, Dehra Dun, Uttar Pradesh

Contact Person: Avdesh Kaushal, Coordinator

Areas of Expertise and Support Capabilities in Fields Related to SF/WD

- Afforestation and plantation management
- Motivation

- Training through eco-development camps
- Supply of implements
  (Crowbars, spades, watering cans, etc.)

System (If Any) for Access to Technical/Professional Information

Technical/Professional expertise has been gained from the following institutions/officials.

- District Forest Officer
- Ranger's College, Dehra Dun
- Indian Photo-interpretation Institute, Dehra Dun
- Central Soil and Water Conservation Research and Training Institute, Dehra Dun.

Sites of SF/WD Field Projects

SF/WD work is being carried out in the 70-80 hectare Sahastradhara area of District Dehra Dun, which includes areas under landslips from former limestone quarries. Various species of trees (Toon, Silver Oak, Mango, Bakain), shrubs (Kala Bansa, Besharam) and grasses are being planted by youth groups from different parts of the country and the local area, guided by Nehru Yuvak Kendra's core group of volunteers. Plantation work is being carried out on Forest, Panchayat (Gram Sabha) and Private lands with funds and other support facilities from a number of Government agencies including the Department of Youth Affairs, Forest Department, Survey of India, the local administration, DRDA and NYK itself.

Programmes that Benefit Tribals or Women Specifically

There are no programmes exclusively for women. Girls however, are, participating in the eco-development camps and are undertaking plantation work with a great deal of enthusiasm.

NGOs/Voluntary Agencies and Other Community Groups with Whom the P Group has Interacted in SF/WD Programmes

The Nehru Yuvak Kendra interacts regularly with youth groups from various parts of the country through their participation in eco-development camps that are held at Sahastradhara, District Dehra Dun. Local village elders are also consulted while village youth actively partake in the plantation activity, erection of fencing, pit-digging, watering etc. that are features of such camps.

Perception of NGO Strengths and Failing in Relation to SF/WD

Failing

The greatest failing of NGOs is their reluctance to cooperate with Government agencies in eco-development (and other) programmes. While NGOs

expect every kind of assistance from the Government, they are unwilling to participate in official schemes. Such an attitude, especially towards the Forest Department, is a big obstacle in the way of successful implementation of development programmes.

NGOs malign the Forest Department more than necessary, without trying to understand the limitations of the Department.

Method/System (If Any) of Evaluation of the P Group's Own Work

- The plantation activity being undertaken in Sahastradhara by the NYK is being monitored by representatives of the ECO Task Force (of ex-servicement) and the Forest Department.

- NYK itself keeps track of the daily progress - numbers of seedlings planted, watered etc.

- Visitors' feedback.

- The Kendra conducts surveys of the tasks accomplished.

Success in Eliciting Community Participation in SF/WD Programmes

The P Group has been very successful in involving members of local communities in SF/WD. Programmes are implemented and supervised by youth while advice/views are sought from all other members of the community, including village elders.

Perception of the Work and Role of Forest Department and Other Official Agencies in Supporting SF/WD Work of NGOs

Official agencies can be very supportive of the SF/WD work of NGOs as is clear from the help rendered to the NYK eco-development camps at Sahastradhara by various Government departments.

- The Forest Department has been providing free saplings, poles, wire, staples (for fencing) etc. for plantations raised by NYK volunteers on forest land. Three Forest Department staff members have been posted with the camps for monitoring their activities. The Department is supplying free accommodation to the campers. Watch and ward facilities have also been provided.

- The Department of Youth Affairs has paid the fares (and daily allowance) of youths who have travelled from various parts of India to Sahastradhara to participate in the camp.

- Survey of India has provided tents (free of charge) to house the campers.

- The District Magistrate has made a jeep available.

- The Eco Task Force has posted two jawans for supervising and monitoring the work.

- The District Rural Development Agency has provided funds (under NREP) for fencing Panchayat land. The Agency will also be paying for watchmen and gardeners.

Social, Legal and Political Problems in Carrying out SF/WD Work

- There are several cases of encroachment on common, public land, from where it is very difficult to evict the encroachers.

- In the Doon Valley - Mussoorie Hills region, mine representatives have been deliberately trying to obstruct reclamation work by indulging in malicious propaganda against people engaged in afforestation of mined areas.

- Some non-government groups in the valley, rather than doing constructive work, have been highly critical of the SF/WD work being done by the NYK. Such vocal environmental groups have made no contribution to field work for eco-regeneration and, instead, have been consuming scarce monetary resources for paper generation.

Willingness to Broaden Interaction with NGOs in SF/WD and Relevant Terms and Conditions

The NYK will be happy to involve NGOs, preferably youth groups, in SF/WD camps. The conditions are that advance notice be given and such groups meet their own travel and subsistence expenses. Members of NYK are also willing to visit other NGOs provided their travel and accomodation expenses are borne by the host NGO. Adequate notice must also be given to NYK.

Gram Vikas (GV-K)

Address: Project Office: Gram Vikas, Honnsetthalli, P.O. Yelagondahalli 563 127, District Kolar, Karnataka,

Contact Person: Raj Iyer, Project Leader

Areas of Expertise and Support Capabilities in Fields Related to SF/WD

- Nursery raising
- Afforestation
- Training

Sites of SF/WD Field Projects

Social Forestry is part of Gram Vikas' Integrated Rural Development Programme covering 50 villages of Taluka Mulbagal, District Kolar, Karnataka.

- Twenty two decentralized nurseries (kissan nurseries) have been established and eight lakh saplings (fruit, fodder, fuelwood, ornamental and other species) are being raised by youth, women and children.

- Panchayat lands are being used to raise community woodlots (locally known as Gundu Thopus). Five such woodlots have been established by youth and women's groups using seedlings supplied by the Forest Department and kissan nurseries. Funds for fencing and irrigation have been supplied by Gram Vikas.

- Protection has been provided to old trees (Banyan, Peepal, Tamarind, etc.) by such methods as earth filling and platform building (around the bases of trunks). Village folk themselves have undertaken this programme and even raised part of the funds for its implementation. The remaining funds have been supplied by Gram Vikas.

- Tree planting has been taken up in balwadi campuses in 17 villages at the initiative of the mothers of children studying in the balwadis. These balwadis also serve as centres from which villagers are being educated about the significance of tree planting.

Gram Vikas' SF programme has been funded by Hope International Development Agency, Canada.

NGOs/Voluntary Agencies and Other Community Groups with Whom the P Group has Interacted in SF/WD Programmes

Programmes

"SEARCH", a Bangalore based organisation sent trainees to Gram Vikas. The Trainees camped at the balwadi at Kunibande and planted some thousand seedlings in the foreshore area of the village tank. Gram Vikas has been interacting with village communities in its project area. Youth associations (Gramabhivruddhi Sanghas), women's groups (Mahila Sanghas) and children have been motivated to plant trees. The kissan nursery programme, for instance, is being planned and implemented by the people themselves, as are the other projects. People's Sanghas' play a vital role in motivating other villagers to take up plantation work. They also monitor programmes. The nursery programme is being monitored by a committee comprising members from 'Sanghas' and Gram Vikas.

Success in Eliciting Community Participation in SF/WD Programmes

The P Group has been fairly successful in seeking the involvement of village communities in its Social Forestry Programme. This has been discussed in the preceding section.

Perception of the Work and Role of Forest Department and Other Official Agencies in Supporting SF/WD Work of NGOs

The Forest Department and Gram Vikas have collaborated in the implementation of Social Forestry programmes in Taluka Mulbagal. The Forest

Department has supplied seedlings and field expertise, whenever required, to Gram Vikas. The P Group has been invited to be on the district level, as well as taluka level Wasteland Development Committees of the State Government.

Behavioural Science Centre (BSC)

Address: St. Xavier's College, Ahmedabad 380 009, Gujarat

Contact Person: Director

Areas of Expertise and Support Capabilities in Fields Related to SF/WD

- Afforestation on saline lands
- Nursery development
- Soil analysis
- Water harvesting
- Training of local people in cooperative management

The P Group has an educational wing comprising two readers, two lecturers and a trainee, as well as a technical wing consisting of an agricultural manager, a supervisor, three agricultural assistants, a veterinary doctor and an assistant in animal husbandry. The educational wing undertakes the responsibilities of organising people (beneficiaries), helping the technical wing to explain to farmers what experts are doing and why, seeing to it that all beneficiaries (members of cooperatives) have equal control over the enterprise and, finally, training local people in developing both educational and technical skills.

The technology wing plans and executes the project both at the technical level (finances, production, marketing) and at the human level (labour relations).

System (If Any) for Access to Technical/Professional Information

Technical/professional information is acquired from:

- BSC's own library
- Visits to other agencies
- The Centre's experimental research substation on a 200 acre plot wasteland at Village Daheda, Taluka Khambhal, District Kheda.

Sites of SF/WD Field Projects

Social Forestry has been undertaken in the following villages of the Bhal area of Taluka Khambhat, District Kheda, Gujarat: Vadgah, Vainez, Golona, Pandad, Gudel, Valli, Mitli. About 380 acres have thus far been vegetated, with the help of Government funds and BSC's own finances. All land is owned by cooperatives of Scheduled Castes of which all families of the various villages (covered by the programme) are members.

NGOs Voluntary Agencies and Other Community Groups with Whom the P Group has Interacted in SF/WD Programmes

- Vikas Centre for Development, Ahmedabad
- MAHITI, Ahmedabad
- VIKSAT, Ahmedabad
- Kheda Social Service, Khambhat, Gujarat

BSC has been interacting directly with Scheduled Caste farmers who are members of cooperatives in the seven villages of the Bhal area of Kheda District where SF/WD programmes are being implemented.

Perception of NGO Strengths and Failing in Relation to SF/WD

Strengths

- The small size of most NGOs is an advantage
- NGOs have the flexibility in designing their plans, not available to Government agencies
- Most NGOs have a good rapport with rural people.

Failings

- Many NGOs are unclear about what constitutes Social Forestry.
- NGOs tend to neglect the development of hard skills in villagers (beneficiaries) that are essential for proper management of SF/WD programmes on a continuing basis.

Method/System (If Any) of Evaluation of the P Group's Own Work

BSC evaluates its projects at weekly and monthly meetings, as well as through physical and financial budgeting.

Success in Eliciting Community Participation in SF/WD Programmes

All Scheduled Caste households of the project villages are members of cooperatives that plan and execute the programmes with assistance/guidance from BSC, and are, in addition, trained by the P Group.

Perception of the Work and Role of Forest Department and Other Official Agencies in Supporting SF/WD Work of NGOs

Government agencies, including the Forest Department, have the authority to sanction or not sanction transfers of wastelands, cutting and sale of forest produce and other vital functions crucial to SF/WD works. Official agencies could be more supportive of NGO interests and potentials in these areas.

Social, Legal and Political Problems in Carrying out SF/WD Work

- Threat of domination by upper castes. BSC's experience has shown that the aim of higher castes is to keep the poor divided to enable them (upper castes) to consolidate their own hold on land, forest produce and other benefits.

- Acquiring land under the Land Ceiling Act is problematic.

- A great hurdle is the necessary permission required from the Forest Department for cutting and selling wood. Much time is wasted in this process. The Forest Department should be more cooperative in granting such permission.

Willingness to Broaden Interaction with NGOs in SF/WD and Relevant Terms and Conditions

BSC is willing to interact with NGOs through seminars, meetings, etc., provided advance notice is given. The major constraint in providing technical assistance to other NGOs is the P Group's limited manpower.

PROFILES OF OFFICIAL AGENCIES

Central Soil and Water Conservation Research and Training Institute (CSWCRII), I.C.A.R.

Address: 218, Kaulagarh Road, Dehra Dun 248195

Contact Person: Dr. V.V. Dhruva, Narayana, Director

Areas of Expertise and Support Capabilities in Fields Related to SF/WD

- Has all the technology related to soil and water conservation, afforestation, crop improvement, and watershed management.

- Research is conducted with the following objectives:

  Appraisal of erosion problems and conservation of land and water resources under different land-use systems.

  Evaluation and identification of suitable plant material for different land uses according to land capability.

  Evaluation of hydrological behaviour and management of watersheds for reducing sediment discharges and improving water regime.

  Development of suitable technology for increasing production from eroded and degraded lands.

  Monitoring of changes in environment as affected by landuse and management practices.

Development of techniques for rainfed farming and efficient water management.

Developing techniques for stabilising special problem areas such as ravines, landslides and hill torrents.

Training in soil and water conservation

Demonstration of practices in soil and water conservation for farmers.

Three regions are covered by the Institute and its Regional Centres: Hill Region, with the main institute and its centres at Chandigarh and Dotacamund; Ravine Region, with centres at Agra, Kota and Vasad located along the Yamuna, Chambal and Mahi rivers respectively; and Black Soil Region of peninsular India in which the Bellary Centre is located.

- There is a separate Division for Plant Sciences that evaluates and indentifies plant material for protection of watersheds, farm forestry and grassland management.

- There is also an Extension Section that plans and develops pilot projects on watershed basis, and economically evaluates various soil and water conservation practices and organises programmes to create public awareness.

- Farmers (small and marginal) are adopted under the Lab to Land programme, and given assistance in the form of improved technology as well as monetary inputs.

- Technical guidance and advisory service.

System (If Any) for Access to Technical/Professional Information

The Institute has a comprehensive data bank on soil and water conservation. If the need arises, foreign agencies are referred to e.g. further thinning of wire for gabion dams.

Sites of SF/WD Field Projects

- Operational Research Projects (OPR) on Watershed Management at:

- Village Fakot, Block Narendra Nagar, District Tehri Garhwal

- Village Nada (Research Centre Chandigarh), Haryana

- Village Sukhomajri, Chandigarh

- Village Bunga, District Ambala, Haryana (Research Centre Chandigarh)

- Village Behadala, District Una, H.P. and Chattara, Haryana (Research Centre Chandigarh)

- Village Halli, District Chittradurga, Karnataka (Research Centre Bellary)

- Village Sheetalpur, District Hamirpur, U.P. (Research Centre Agra)

In addition, some 13 other watersheds have been selected from backward areas for integrated resource management on the lines of the Sukhomajri Project involving water harvesting, storage and recycling; erosion control structures; agronomy; horticulture; forestry; grassland development; mixed cropping; animal husbandry; fishery and poultry.
These watersheds are:

Watershed	District	State
Chinnatekur	Kurnool	A.P.
Navamota	Sabarkanta	Gujarat
Rebari	Panchmahal	Gujarat
Siha	Mohindergarh	Haryana
Joladarasi	Bellary	Karnataka
Kathirampatti	Palghat	Kerala
Dapoli	Ratnagiri	Maharashtra
Chindrinala	Koraput	Orissa
Chhajawa	Kota	Rajasthan
Padarthara	Guddalur	Tamil Nadu
Etmadpur	Agra	U.P.
Radharamanpur	Bankura	W.B.
Genura	Purulia	W.B.

NGOs/Voluntary Agencies and Other Community Groups with Whom the CSWCRTI Has Interacted in SF/WD Programmes

Has not interacted with any NGO on a sustained basis. Voluntary agencies have started approaching the institute only recently but have never followed up with subsequent visits. Most of the Institute's interaction has been directly with farmers adopted under the Lab to Land programme. Other forums for interaction with village communties include meetings in adopted villages and Kissan Melas in which villagers exchange information and themselves explain what they have achieved.

Perception of NGO Strengths and Failing in Relation to SF/WD

- NGOs have a useful role to play in convincing farmers to undertake agroforestry or crop farming based on the Institute's Research.

- However, one had to be wary of spurious NGOs.

Method/System (If Any) of Evaluating the Institute's Own Work

The Extension Division of the Institute is constantly evaluating its own achievements in terms of members of small and marginal farmers who have been economically uplifted because of the lab to land programme. An annual report

lists the achievements of the Institute. Besides, an achievement audit committee evaluates the work of the Institute once every five years. Evaluation is also done by the benficiaries (farmers) who have been adopted.

Success in Eliciting Community Participation in SF/WD Programmes

Farmers are to play a vital role in the model operational watersheds (mentioned in an earlier section taken by the CSWCRTI for integrated resource management. Farmers were consulted when the master plans for the projects were prepared. A Village Resource Development and Management Society comprising all beneficiaries (farmers) as members will be formed. They will be responsible for development, management, conservation and utilization of natural resources and common facilities in the watershed areas.

Perception of the Work and Role of Forest Department and Other Official Agencies in Supporting SF/WD Work of NGOs

- SF/WD should form a part of a total landuse plan and should be a cooperative effort of various Government departments - Forest, Agriculture, Soil Conservation etc.

- Planning should be at a micro-level on a watershed basis.

- Farmers (beneficiaries), are often ignored by Government officials.

Social, Legal and Political Problems in Carrying out SF/WD Work

People in rural areas are reluctant to take up work unless there are (immediate) economic benefits. This has been experienced by the Institute staff in W. Bengal.

Willingness to Interact with NGOs in SF/WD and Relevant Terms and Conditions

Very willing, provided permission is sought from the ICAR. Although the Department of Environment wanted the CSWCRTI to help the Eco Task Force in the reclamation of quarried lands in the Mussoorie Hills, this could not be done because no sanction had been sought from the ICAR.

Division of Agriculture Extension, IARI

Address: IARI Campus, New Delhi 110 012

Contact Persons: Dr. Kataria, Head, Production Division and Dr. B.P. Sinha, Head, Training and Extension

Areas of Expertise and Support Capabilities

- The Production Division of the Agriculture Division consists of a number of subject specialists from the Indian Agriculture Research Institute.

- Landuse planning, land capability survey, soil/water analysis are carried out by the Division of Soil Science. A minimal charge of Rs 2 per sample is levied and detailed tests such as PH, electrical conductivity, organic carbon, available phosphorus, available potash, calcium carbonate, texture tect., along with fertilizer recommendation are carried out.

- For agro-forestry, schemes are referred to the Horticulture Division, after soil analysis has been done.

- Water management is the purview of the Water Technology Centre.

- Extension, training and motivation is carried out in the Extension Division itself.

- For supply of seeds/seedlings, individuals/NGOs are referred to the State Department Specialist or the Krishi Vigyan Kendras set up under the auspices of the ICAR.

- The Agriculture Extension Division does not have any funds to support projects. However, applications can be made to the ICAR, stating project details for Lab to Land projects (these have, so far, been geared only to maximization of foodgrains).

- Advice on use of implements can be obtained from the Agriculture Engineering Division.

- Wasteland reclamation (saline, alkaline, ravine, etc.) expertise can be acquired from Extension Division.

- Subject specialists from all the above mentioned Divisions assemble every Tuesday at the Agriculture Extension Division, IARI, and are available for consultation by farmers.

Sites of SF/WD Field Projects

No such projects have been carried out so far. However, individual farmers have approached the Division with wasteland development/agro-forestry problems. Villages under Operations Research Projects and Lab to Land Programmes are dealt with by subject specialists.

NGOS/Voluntary Agencies and Other Community Groups with Whom the Division has Interacted in SF/WD Programmes

The Division has not interacted with any NGOs so far. It has interacted with village communities and individual farmers.

Perception of the Work and Role of Forest Department and Other Official Agencies in Supporting SF/WD Work of NGOs

State Forest and other Departments approach IARI/ICAR regional stations for advice (e.g. soil & water analysis), depending on whether the regional station is equipped with relevant scientific staff. If not, the nearest KVK (Krishi Vigyan Kendra) can be approached for help.

Willingness to Interact with NGOs in SF/WD and Relevant Terms and Conditions

NGOs approaching IARI will be rendered all help other than financial support.

127 Infantry Battalion (TA) - Ecological (Eco Task Force)

Address: Kurukshetra Marg, Dehra Dun Cantonment, Dehra Dun, U.P.

Contact Person: Commanding Officer

Areas of Expertise and Support Capabilities in Fields Related to SF/WD

- Project planning and management
- Landuse planning
- Afforestation and soil conservation in the Himalayan and Siwalik Ranges.

Expertise has been developed through experimentation (trial and error), first in the Shahjahanpur Micro-catchment Area (Mohand Forest Ranges of the Siwaliks) and currently in Kiarkuli Micro-catchment of the Mussoorie Hills. Expertise is actually supposed to come (in an advisory capacity from research scientists at:

- Forest Research Institute
- Jamuna Forest Division of the U.P. Forest Department
- Central Soil and Water Conservation Research and Training Institute
- Research and Eco-Technology Group of Roorkee University

The Eco Task Force has no mandate at present for providing support to NGOs working on SF/WD. Military rules and regulations place restrictions on interaction and collaboration with other agencies. (Help rendered to the Nehru Yuvak Kendra in monitoring plantation work at their eco-development camps in the Sahastradhara region has been as a very special case).

System (If Any) for Access to Technical/Professional Information

Technical/professional information was supposed to come from the departments/institutes mentioned in the preceding section. However, help has been forthcoming only from Dr. Mahendra Pant, Coordinator, The Appropriate Eco-Technology Development Group, Roorkee.

Sites of SF/WD Field Projects

- Two micro watersheds of the Shahjahanpur Micro-watershed in the Mohand Forest Range of the Siwaliks. Tasks undertaken include:

  (i) Afforestation - seed collection, storage, care and sowing; lantana eradication; pit digging; pesticide sprinkling; watering.

(ii) Soil Conservation - contour trenches, vegetative gully plugs, rock-filled check dams, gabion check dams and gabion spurs.

- Kiarkuli Micro - Catchment covering the southern slopes of the Mussoorie Hills including the reclamation of mines falling in catchments of the Rivers Kiarkuli and Baldi. Tasks being undertaken include:

(i) Afforestation - on bare rock (seedlings in humus filled polythene bags being inserted in tubular holes chiselled in the rock faces); on mining waste deposits (bench terracing, spreading soil and planting with shrubs; in gullied areas (check dams in nallas). A variety of local and imported trees, shrubs, creepers and grasses are being planted.

(ii) Soil conservation: involving treatment of landslides, roadside plantations and torrent control, the last mentioned entailing construction of check dams, gabion and wattling structures.

(iii) Other tasks involving fencing of plantation areas, vigilance etc.

The various land categories covered in the Kiarkuli Project are forest, private, gram sabha and village grazing lands. The project is being funded by the Deparmtne of Environment, Government of India.

NGOs/Voluntary Agencies and Other Community Groups with Whom the Task Force has Interacted in SF/WD Programmes

As mentioned in an earlier section, interaction with other agencies is outside the purview of the Task Force. However, at a personnel level, support has been extended to:

- Nehru Yuvak Kendra (eco-development camp at Sahastradhara), with whom six jawans have been posted, three for supervision and monitoring and three for surveillance. Some implements have also been supplied.

- The Save Mussoorie Society, to whom a small part of the Kairkuli Project area has been allotted for plantations to be undertaken by school children. The Task Force is providing technical information and guidance.

The Task Force has also assisted the villagers of Bhattagaon and Kiarkuli by providing fruit bearing saplings, helping with official programme (NREP) requirements, etc. By rendering such help to village communities, the Task Force hopes to gain their cooperation in keeping grazing cattle out of the project sites.

Method/Systems (If Any) of Evaluating the Task Force's Own Work

The Eco Task Force submits regular monthly reports to the Department of Environment, the Additional Director General (Territorial Army), the Territorial Army Group Commander and the Special Project Officer of the Doon Valley Board (in-charge of maintaing accounts of funds allocated for the project).

Social, Legal and Political Problems in Carrying out SF/WD Work

- Local villagers initially resented the presence of the Task Force in the Kiarkuli area firstly, because they were apprehensive about the intentions of the army personnel and secondly, due to the restrictions placed on cattle grazing. Over time local people have become somewhat cooperative.

- Mine workers laid off on account of the closure of quarries, have resented not being employed in the army's projects, the resentment being demonstrated through minor acts of sabotage of plantation work.

- The greatest problem has been the unwillingness of the Forest Department and other Government agencies to help the Eco Task Force in reclamation work. No proper project plans, details of measures/works to be undertaken etc. were drawn up before the Territorial Army started operations. According to the Eco Task Force, the Forest Department has been most uncooperative and even seedlings have had to be purchased from private nurseries. (Forest Department sources, however, counter this allegation by accusing the army of being unwilling to accept their help and guidance). The result of this conflict between the two agencies has been that the Task Force has had to resort to trial and error methods as regards reclamation measures.

  - Frequent transfers of officers (every two years) is a big setback to operations. Just as the officers have acquired some degree of expertise in the tasks involved, they must move out, and be replaced by inexperienced staff.

Willingness to Interact with NGOs in SF/WD and Relevant Terms and Conditions

The Task Force officers do not have any objection in principle to cooperation with outside agencies including NGOs. However, the need for cooperation between the armed forces and NGOs in eco-development activities must be impressed upon the high ranking officers of the army so that an appropriate policy change may be effected.

Forest Research Institute & Colleges (FRI & C)

Address: Chakrata Road, Dehra Dun, U.P.

Contact Person: Dr. R.V. Singh, President and Dr. G.P. Maithani, Director, Silviculture Research

Areas of Expertise and Support Capabilities in Fields Related to SF/WD

- Research on Silviculture, forest management, promising indigenous as well as exotic fast growing species, soil studies etc.

- Recommending suitable tree species and disseminating technical know-how about them to the Government and private agencies as well as general public.

- Supply of seeds to the Government and private agencies.

- Documentation, publication and dissemination of scientific literature as well as simple information handbooks, pamphlets, brochures.

- Awareness creation, not only through the distribution of literature but also through portable exhibits in the Institute Museum. A Social Forestry Museum has been set up that depicts, through the use of photographs and models, the influence of trees on the productivity and economy of villages. Nursery raising techniques, planting techniques, various protective measures as well as improved smokeless chulhas are some of the themes displayed.

The FRI is at present not adequately equipped to handle full-fledged extension work. However, such facilities/services are in the process of development.

System (If Any) for Access to Technical/Professional Information

The FRI & C has its documentation system and library.

Sites of SF/WD Field Projects

No field projects are being carried out. The Institute concerns itself with only experimental research and demonstration.

NGOs/Voluntary Agencies and Other Community Groups with Whom the P Group has Interacted in SF/WD Programmes

None. Some individuals interested in commercial planting have approached the Institute, and have been suitably guided. Schools send in occasional queries and these are responded to. Some help has been rendered to the Eco Task Force in their project on mined areas reclamation in the Kiarkuli Catchment of the Mussoorie Hills.

Once a year, a liaison meeting is held with research people, forest officials, representatives from industries and other interested persons. At such general discussions, forestry problems are posed and solutions sought.

Method/System (If Any) of Evaluating the Institute's Own Work

FRI & C has a committee which evaluates the research work. Evaluation is also done by the Head of the Institute. The relevance of works in regard to field problems and their field applicability are assessed.

Perception of the Work and Role of Forest Department and Other Official Agencies in Supporting SF/WD Work of NGOs

The Forest Department has a vital role in applying the FRI's research work in the field and also in making the research accessible to villagers through extension work. Most of FRI's research is used by Forest Departments, universities and technical people.

The FRI can be a centre where forestry research from all over the country is assimilated, simplified and disseminated. The Institute is also trying to establish an extension wing of its own. It also has a programme of acquiring some 100 acres each in the plains and mountains which will serve as demonstration sites for forestry using local species relevant to specific local needs.

At present, a lot of the Institute's published research work is presented in a highly technical manner, so that even professional users find it difficult to interpret it. Simplifying of such material is essential to make it of practical use to non-technical people.

Willingness to Interact with NGOs in SF/WD and Relevant Terms and Conditions

FRI & C is very willing to share its expertise with NGOs. The Institute can take up projects through the administrative ministry.

All India Soil and Landuse Survey (AISLS), Ministry of Agriculture and Rural Development

Address: IARI Buildings, New Delhi 110 012

Contact Person: Dr. R.L. Karale, Project Director

Areas of Expertise and Support Capabilities in Fields Related to SF/WD

All senior staff attached to the organisation and its seven regional centres (Bangalore, Calcutta, Ranchi, Nagpur, Hyderabad, Delhi and Ahmedabad) can undertake:

- Landuse planning
- Land capability surveys
- Soil analysis
- Technical reports on surveys already carried out can be made available upon request from the head of the organization/regional centre.

Sites of SF/WD Field Projects

No field projects on SF/WD have been taken up by the AISLS itself so far.

NGOs/Voluntary Agencies and Other Community Groups with Whom the Organisation has Interacted in SF/WD Programmes

The Organisation has helped the following agencies in the areas of agroforestry/wasteland development, soil survey and landuse planning:

- Non-Official Land Resources Commission, Sevamangalam, Palanpur, Gujarat.

- Society for Promotion of Wasteland Development, New Delhi.

The Organisation has not worked with any specific community but has undertaken overall surveys and related work especially for watershed management/development.

Willingness to Interact with NGOs in SF/WD and Relevant Terms and Conditions

Is willing to interact with NGOs and extend all advice and technical expertise available with the organisation.

PART IV

SOME INFERENCES

This report, as has been stressed earlier, serves a very limited purpose. It is not meant to be a critique of Social Forestry/Wasteland Development efforts in India. It touches but the fringes of the numerous and complex controversies about Social Forestry programmes in India. Critics have charged that the programme has resulted in perverted goals, misallocated benefits, official wastefulness and corruption, etc.

The present study limits itself to a look at two sets of actors in this drama of many parts - the so called professional NGO groups and the professional official agencies. We have attempted to examine the work of these bodies to perceive ways in which they could be of greater assistance to grassroots NGOs in the field of Social Forestry/Wasteland Development. This too has been viewed from the perspective of an input into the Consultation in September 1986 that brought together representatives from NGOs, donor agencies, the UN and the Central and State Governments.

In planning for the study, the professional NGO groups and the grassroots NGOs were perceived (in functional terms) as being in different categories - the former possessing the skills, the knowledge and the technical infrastructure required for Social Forestry and the latter the contact with communities and the ability to motivate them. The conventional wisdom thus dictated that the cooperative endeavours of these two categories of groups would further the goal of bringing about a people-based Social Forestry/Wasteland Development programme.

However, this was one of the first assumptions to become blurred at the edges as the study team found that in many cases the P Groups dealt directly and most effectively with communities in Social Forestry/Wasteland Development projects and that in some cases working through NGOs would only have presented additional and avoidable conflicts and complications. It is of course always dangerous to generalise and there well may be a sufficient number of the happy P Group-grassroots NGO relationships to justify that paradigm.

One overwhelming factor in the Social Forestry scenario in the country today is the ubiquity of the official presence. Besides the sharply growing official programmes involving a Social Forestry component (NREP, RLEGP, IRDP, etc.) an increasing number of special schemes attempt to lure and support NGOs, corporate groups, semi-government formations such as the National Service Scheme (NSS) etc. in Social Forestry work. From the point of view of the recommendations to emerge from the Consultation therefore some thought must go into what NGO contributions are possible that either act as a catalyst/prodder to official schemes for increasing their effectiveness or else make a distinct "additional" contribution (funds, information flow, etc.). In any case, it would seem that in the present complicated scenario of constrainsts including tedious procedural requirements invovling land acquisition, clearances, donor agency requirements, etc., the possibility of completely avoiding the official system seems remote for any significant programme of Social Forestry/Wasteland Development. This has been an invariable conclusion from the experience of each NGO group studied.

For instance the Nehru Yuvak Kendra (NYK), Dehra Dun, has realised the impracticality of attempting SF/WD without tapping the resources of Government agencies and official schemes promoting plantation programmes. The Kendra has strenuously attempted to secure help from various official bodies in organising eco-development youth camps involving plantation activities in the Sahastradhara area of District Dehra Dun. So successful has the NYK been in eliciting official help that it has even managed to separately secure the assistance of two mutually antagonistic agencies in U.P. - the Eco Task Force and the Forest Department. NYK has received help from organisations such as the Survey of India, the PWD and the local administration. A number of facilities, e.g., accommodation, vehicle for local transport, seedlings, fencing material, implements, etc., have been provided either free of charge or under the DRDA/NREP. Consequently, the NYK has not required any additional, special funds for its plantation work.

NYK's success lies both in the personal rapport that its celebrated leader, Avdesh Kaushal has managed to establish with key Local, State and Central Government officials on the one hand, and in its willingness to extend institutional support to Governmental programmes in Dehra Dun and the neighbouring districts on the other. Such cooperation (on the part of NYK), as well as the sincerity with which it has been working, has earned the Kendra much goodwill amongst the State and Central bureaucracy.

Yet another instance of a productive Government - local communities/NGOs alliance in SF/WD programmes has been in the state of West Bengal. Effective interaction between village Panchayats and the Forest Department (with or without the assistance of NGOs), and the allocation of Government land to tribals/landless poor, are stated to be the reasons for the effectiveness of the programme in this state.

However, the cases of NYK and West Bengal are perhaps exceptions. Most voluntary agencies resent, and therefore give up on, the proverbial bureaucratic indifference, red-tapism and corruption (as revealed by NGO responses to the query on their perception of Forest and other Government Departments). Some groups have had very unhappy associations with official agencies. MAHITI, the Ahmedabad-based NGO, is one group that has failed in its efforts to mobilise the Government machinery towards reclamation of the

barren, saline tracts of the Bhal in Dhandhuka Taluka of Saurashtra. Development funds for this backward area have allegedly been diverted elsewhere to "meet targets".

Some NGOs feel that they have often been perceived by local offical agencies as rivals. NGO contributions have been played down, and unfairly criticised. There have also been cases of open hostility between official and non-governmental agencies, with the former resorting to petty acts of sabotage besides using other osbtructionist tactics. Yet another complaint of voluntary groups seems to be the inter-departmental rivalry between various official bodies themselves. This prevents effective collaboration between official agencies and NGOs have found themselves unnecessarily embroiled in such conflicts so that help could not be sought from one Institute/Department without damaging relations with another.

THE OFFICIAL VIEWPOINT

A limited survey of official, professional agencies has shown that they have had negligible interaction with grassroots NGOs in the field of SF/WD, despite the fact that Government organisations possess the resources, infrastructure and expertise to guide grassroots level workers. The official agencies tend to view NGOs with a mixture of suspicion and derision, blaming them for not consistently and perseveringly seeking cooperation and assistance. Some senior officials felt that voluntary groups preferred to be linked with foreign aid agencies who fund generously and ask few questions, rather than seek the help of Government extension agencies and funding bodies. NGOs tended to lose contact after and initial visit to some concerned official body. Officials suspect that this is because they [NGOs] were primarily interested in a pro forma association with a professional institute so as to better their chances of getting funds from donor agencies.

Most of the technical assistance required for SF/WD-soil survey and landuse planning, soil testing, choice of suitable species and other such advice - could be provided (by Government agencies) free of cost or at very nominal charges. Yet, say officials, such departments have never been approached or utilised by NGOs, (this did also reflect, among other things, the inadequacy of the official publicity strategies). Reports such as soil survey/analysis, land capability etc., that are readily available with Government departments were also not used. In fact, official agencies have found that NGOs pay scant attention to vital background survey work, without which their efforts in SF/WD can only be "amateurish". Officials also allege that NGOs' unjustified, preconceived notions about Governmental apathy prevents them from even approaching the official bodies for assistance.

But then....

These views of responsible representatives of the official professional agencies, even if valid, would need to be tempered with the implications of the following facts:

1. There is no clearly defined contact point within such agencies where NGOs can get comprehensive, authentic information at one go.

2. Often NGOs approaching these agencies are asked to take "permission" or clearance or bring a letter from the parent ministry or body (e.g., ICAR). This is not always a simple task for local NGOs or community groups. For instance the Central Soil and Water Conservation Research and Training Institute allegedly could not render professional help to the Eco Task Force because permission had not been sought from the ICAR.

3. The task of spending time and effort to help NGOs with plantation related advice is not, in most cases, officially notified (at the policy level) as a legitimate activity for which the official experts concerned could be given due recognition when it comes to accounting for work output. Hence, the degree of cooperation received tends to vary with the level of benevolence of the "expert" met.

4. Not every Official Expert is capable of providing legitimate comprehensive advice on SF/WD related work and in some instances NGOs have been "led up the garden path" by inexperienced and professionally unsound experts resulting in avoidable, costly, unsuccessful experiments.

In turning to look at the NGO Professional Group-Grassroots NGO relationship, the following factors need to be kept in mind in order to foster the kind of professional cooperation envisaged.

1. The P Groups must be constantly aware of the possibilities for professional growth of the grassroots NGOS and be prepared for adjusting to self-assertion by NGOs. Indeed P Groups must work towards helping NGOs achieve self-reliance and graduating to the status of professionally competent bodies.

2. With the increasing amount of official interest in supporting NGO work in rural development, wastelands development, etc. the chances of smaller groups having direct access to financial support is likely to increase in the near future. While P Groups have expressed to the study team their readiness to help NGOs with Social Forestry work, the question of financial compensation, sharing of publicity, long-term allocation of operational responsibility, etc. are all issues on which conflicts (personality clashes) can arise between P Groups called in and the grassroots NGOs themselves.

3. P Groups themselves vary widely in technical competence and achievement. Successfully raising a plantation in one set of conditions is no guarantee for continued success under other conditions. Very few of the P Groups studied were systematically documenting their experience let alone carrying out research and field trials on identification of species, methods of seed collection/storage, techniques of soil preparation, live fencing, technique of harvesting leaves, fruits, seeds, flowers, bark etc, planting techniques, assessment of environmental, social and economic impact of various approaches, etc. Often traditional foresters on the staff of P Groups who moved to unfamiliar project sites were soon found to be out of their depth. Consequent failures of plantations were blamed on everything but the P Groups' compentence.

A study on the now dormant Ranchi Consortium RCCF, (an NGO that claimed a leading role in the promotion and implementation of SF/WD projects in India) in a report titled "Non-Governmental Organisations and Social Forest in India"

(1985) by J.D.V. Blitterswijk of the Department of Forest Management, Wageningen Agricultural University, The Netherlands, reveals how in the tribal areas of Ranchi District, the Group had failed to identify and internalise factors crucial to the success of SF/WD projects. Some of these factors were:

- Selection of species of local interest. No special attention paid to fuelwood production despite its scarcity.

- Studying the prevailing, complex, land tenure systems, often the cause of serious conflicts between Government agencies and the tribals.

- Understanding the village-level power structure.

- Making equitable arrangements for distribution of plantation produce among beneficiaries.

- Developing nurseries. This limited the types of species that could be readily planted.

In addition the P Group lacked technical field support capabilities with the executive staff having hardly any experience in agro-forestry techniques. The RCCF's documentation and evaluation of plantation experiences was also very poor.

As with their technical expertise, the extension and communication skills of the P Groups varies sharply as do their overall ability to mobilise poeple or organise community groups for Social Forestry/Wasteland Development. A number of P Groups, RCCF for example, neither sought the participation of the community in decision-making, nor in programme planning. Such groups reach the poor with their plantation schemes only from their need to hire (low) paid labour. Groups with retired foresters on their staff may have some advantage in dealing with village leaders, though the task or organising small and marginal farmers comes easier to those groups with few pretensions about experience and expertise. Members of the MAHITI team, operating in the Bhal area of Saurashtra, have elicited the involvement of farmers so effectively, that a number of their experiments in irrigation and planting techniques have been based on information/ideas gained from the local community.

There have been other such successful groups too. Some have taken advantage of unique community traditions to involve villagers in various programmes. An example is the Wavli, an income generating activity taken up exclusively by tribal women. Income derived from the Wavli is retained by women, and men can have no claim over it. Since April 1986, nursery raising has been introduced by BAIF as a Wavli activity. A number of other "community participation models" have also evolved. The Tree Growers' Cooperatives (VIKSAT), Thrift Societies (BCT) and the Sangham Model (CROSS) have been some.

One Word More

The report makes no systematic prescriptions on how best the myriad problems can be sorted out, of bringing men, material and money together for the greening of India - to restore its man-ravaged ecosystems and to satisfy those basic human needs which so depend on the country's quantity and diversity of biomass resources. Much of the failure of our efforts in Social Forestry so far can be attributed to the lack of communication between the

various segments of our planning, implementation and supporting community. Our survey has enabled us to present a cross-section of viewpoints on the problems of cooperative endeavour in Social Forestry (apart from straight information on professional capabilities and achievements). This report could perhaps make a small contribution to the basis for formulating recommendations at the Consultation.

PART V

SUPPLEMENTARY RESOURCE MATERIAL

SPWD

- Annual Reports for the years 1982-83, 1983-84 and 1984-85

- Brochure of the Society for Promotion of Wastelands Development 12 pages.

- Wastelands News: A quarterly newsletter of SPWD; Vol. 1, No. 2, No.v '85-Jan '86

- Agarwala, V.P. and P.C. Chadha. 1984. Greening the Aravallis: Sehsola (Gurgaon) Experiment. SPWD, Delhi. 18 pages.

- Report on the proposed Social Forestry project of the Anand Niketan Ashram for Interchurch Coordination Committee for Development Projects, Holland 1984. SPWD, Delhi. 9 pages.

- Hill resource development and community management: Lessons learnt on micro-watershed management from cases of Sukhomajri and Dasholi Gram Swarajya Mandal: Report submitted to the Planning Commission's Working Group on Hill Area Development. August 1984. SPWD, Delhi. 24 pages.

- Economics of Wastelands Development. Proceedings of the SPWD-NABARD Seminar held at Suraj Kund on March 8th, 9th, 10th, 1984. SPWD, Delhi,. 28 pages.

- Chowdhury, Kamla. 1984. Social Forestry: Who Benefits? SPWD, Delhi. 28 pages.

- Choice of tree species for wastelands of India. Proceedings of a panel discussion organised by SPWD on December 17, 1983 at New Delhi. 38 pages.

Social Forestry: Partnership of schools, communities and Government, p. 5-8

- Bhumbla, D.R. Small Reservoirs: A programme for improving rainfed agriculture: Policy Paper Series. SPWD, Delhi. 9 pages.

- Bhumbla, D.R. Reclamation of Alkali Soils in U.P. Discussion Paper Series No. 1, SPWD, Delhi. 2 pages.

- Bhumbla, D.R. and A. Khare. Estimate of Wastelands in India. SPWD, Delhi. 16 pages.

- Chowdhury, Kamla. 1982. Afforestation: One crore trees. One year. One agency. 6 pages.

- Tolba, Mostafa K. 1982. Rolling Back the Wastelands: Lecture to the SPWD at the India International Centre on 27th December 1982, New Delhi. 10 pages.

- Bhumbla, D.R. Fuelwood Plantations. Contemporary issues. SPWD, Delhi. 10 pages.

AFPRO

- Devpimpalgaon Today: Agricultural development project. March 1983-a pamphlet.

- Brochure of Action for Food Production. 11 pages.

- Annual Report for the year 1984.

- Siva Prasad, K. 1985. Agro-Forestry farming systems for arid and semi-arid zones - a paper. 5 pages.

- Pilot project for the regeneration of desert environment in Kelansar. 1984. AFPRO, Delhi. 42 pages.

- Verma, B.L. The Barbed Wire Culture: A review of the draft social forestry project in Rajasthan. AFPRO. 7 pages.

BAIF

- Subabul: The answer - a pamphlet brought out by BAIF.

- The BAIF Journal Vol 6, No. 2 Jan. 1986, and Vol. 5, Nos. 2 & 3, January-April 1985.

- Hegde, N.G. Economic Viability of Using Leucaena Wood for Newsprint Production. BAIF, Pune. 4 pages.

- Desai, Manibhai. 1981. Growing Scarcity of Fodder and Fuel. Commerce 143: 688-691.

- Drip Irrigation Scheme, Gokak Paper by BAIF. 3 pages.

- Hegde, N.G. Leucaena for Agro-forestry: Experiences of BAIF - paper. BAIF, Pune. 8 pages.

- Desai, Manibhai. 1984. BAIF Poised for New Challenge. In a special publication brought out on the occasion of BAIF's Foundation Day.

- Review and report on BAIF's span of activities, as presented at the annual meeting of the Board of Trustees at Bombay on 21.2. 1984. 11 pages.

- Brochure of Bharatiya Agro Industries Foundation, Uruli Kanchan.

- Relwani, L.L. 1984. Involvement of Voluntary Agencies in Energy, Environment and Technology. Paper presented at a Seminar on Energy, Environment and Technology for Rural Areas August 1-4, 1984 at Administrative Staff College of India, Hyderabad, 11 pages.

- Role of Sericulture in Rural Development (a paper on the practices involved in sericulture). BAIF, Uruli Kanchan. 20 pages.

BCT

- Social Forestry souvenir. 1984. BCT, Yellamanchili. 46 pages.

JAFC

- Patel, V.J. 1985. Rational Approach Towards Fuelwood Crisis in Rural India. Economic and Political Weekly. 22: 1366-68

CROSS

- Pamphlet brought out on the occasion of CROSS' decennial celebrations on June 25, 1985.

AFARM

- Pamphlet on Action for Agricultural Renewal in Maharashtra.

- List of names and addresses of AFARM members as of January 1986.

AUROVILLE

- Afforestation and Soil and Water Conservation in the Auroville Area: Report of the years 1983-84 and 1984-85.

- Pouyet, Jean, and Colleen Pouyet. 1985. Healing the Earth. Auroville. 19 pages.

- Earthhealer: Auroville Environmental News VII. 1984. Auroville. 8 pages.

- Auroville proposal for research on agroforestry and biological farming. Auromitra. 25 pages.

- Auroville Greenwork: Information booklet on environmental regeneration of Auroville. Auroville, Kottakuppam. 15 pages.

KKK

- Annual Report of the Kasturbagram Krishi Kshetra for 1984-85.

CAD

- A short report on the aims, objectives and activities of Community Action for Development. CAD, Alankuppam Village, Tamil Nadu. 6 pages.

- Forestry for the People and by the People: An action report by Community Action for Development. June 1984. CAD. 8 pages.

VIKSAT

- The role of voluntary agencies in wasteland development. Proceedings of Seminar at VIKSAT, Nehru Foundation for Development, Ahmedabad, 11, 12, 13 October 1984. 84 pages.

- Wasteland Development Programme. 1986. VIKSAT, Nehru Foundation for Development, Ahmedabad. 20 pages.

PEEC

- Information pamphlet on PEEC.

MYRADA

- MYRADA Newsletter, No. 2, January 1985.

- Director's Report on Management and Personnel at Meeting No. 52, dated March 7, 1986. 6 pages.

MAHITI

- Social Afforestation on Wasteland. Field Guide. 1985. Mahiti/Uttan Ahmedabad.

- Why is Social Forestry not "Social"? Paper presented by the Mahiti team at the Ford Foundation workshop on Social Forestry and Voluntary Agencies, 13-15 April 1983, Badkhal Lake, Haryana. 21 pages.

- Information Pamphlet on Mahiti.

- Yet another development plan for the "Area in Red". Will this one be serious? Some comments on the "special" development plan for the Bhal region being proposed by the Government of Gujarat. Mahiti team, Ahmedabad.

- Field Guide to Social Afforestation. Planted Activity Note. Mahit Project, Ahmedabad.

- Focusing on the real issue: Some glimpses from Dhandhuka Taluka. Paper presented by the Mahiti Team at the Regional Workshop on Block Level Planning, October 406, 1982. South Gujarat University, Surat.

BSC

- The Behavioural Science Centre, Ahmedabad. Annual reports 1978-79, 1979-80, 1981-82, 1982-83 and 1984.

TFL

- Trees for Life information pamphlet.

- Trees for Life - A brief summary about the organisation.

- Life Lines. Trees for Life newsletter. Winter 1985. Wichita, Kansas.

CSWCRTI

- Soil Conservation Research Highlights, 1984. 22 pages.

- Narain Pratap, D.M. Puri and V.V. Dhruva Narayan. 1985. Agro-forestry Programme in Watershed Management. Reprinted from "Lead Papers" of the National Seminar on Soil Conservation and Watershed Management, September 17-18, 1985, New Delhi. pp. 180-190.

- Bhardwaj, S.P. 1985. Operational Watersheds and Transfer of Technology. Reprinted from "Lead Papers" of the National Seminar on Soil Conservation and Watershed Management, September 17018, 1985, New Delhi. pp. 287-296.

- Sastry, G., U.S. Patnaik and V.V. Dhruva Narayana. 1985. Conservation Engineering Measures in Watershed Development Projects.

- Problems and Prospects. 1985. Reprinted from "Lead Papers" of the National Seminar on Soil Conservation and Watershed Management, September 17-18, 1985, New Delhi. pp. 213-25.

- Singh, Hukam. 1985. Status of Grasses in Soil Conservation and Integrated Watershed Management. Reprinted from "Lead Papers of the National Seminar on Soil Conservation and Watershed Management, September 17-18, 1985, New Delhi. pp. 164-79

- Soil Conservation Annual Report, 1984. 241 pages.

- Babu, Ram, M.C. Agarwal, D.M. Puri. 1981. Size and Shape of Plots and Blocks for Field Experiments in natural grasslands of Agra Ravines. ICAR Bulletin No. R-7/A-1. CSWCRTI Research Centre Agra. 41 pages.

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PROFILES OF SOME "OFFICIAL" AGENCIES

Engaged in Forestry and related work

D.Raghunandan

Introduction

In this paper, some of the major "official" agencies engaged in forestry and related activities are profiled. By "official" agencies we mean governmental, quasi-governmental agencies and agencies predominantly government-funded or interacting predominantly with government. These profiles do not cover all such agencies in the country or even all the major ones. Rather the institutions profiled were identified after discussions with some prominent agencies and individuals involved in this Consultation. This selection is also delimited by the number of institutions which could be covered within the short period of time available for preparing these profiles. Despite these clarifying remarks, it is felt that the institutions profiled are a fair representation of similar institutions all over the country.

These profiles have been drawn up on the lines of a standardised format. The focus of the profiles is on the nature of work in these institutions, the content and organisation of information systems, linkages with NGOs and other outside agencies. Thus, these profiles are not seen as comprehensive profiles of these institutions, but rather, specific to the above focus.

Institutions Profiled

1. Indian Institute of Forest Management, Bhopal.
2. Forest Survey of India, Dehradun (U.P.).
3. Environmental Planning & Co-ordination Organisation, Madhya Pradesh, Bhopal (M.P.).
4. Indian Institute of Management, Bangalore.
5. Indian Institute of Science, Bangalore.
6. Indian Institute of Public Administration, (Environmental Studies Division), New Delhi.
7. National Botanical Research Institute, Lucknow.
8. Bombay Natural History Society, Bombay.
9. Giri Institute of Development Studies, Lucknow.
10. Forest Research Institute & Colleges, Dehradun (U.P.).
11. Indian Law Institute, Delhi.
12. Central Arid Zone Research Institute, Jodhpur (Rajasthan).

Other Profiles

1. University of Gharwal, Srinagar (U.P.), (Department of Botany)
2. University of Gharwal, Srinagar (U.P.), (Department of Forestry)
3. G.B. Pant Agricultural University, (Department of Agro-forestry), Pantnagar (U.P.)

Indian Institute of Forest Management
Bhopal

1. Name of the Institute: Indian Institute of Forest Management
E-5/120, Arera colony, Bhopal - 462016.

2. Director: Shri J.K. Chaturvedi

3. Type of Institution: Registered Society

4. Funding: Government of India through Ministry of Agriculture; Swedish International Development Agency; consultancies and courses.

5. Brief history and facilities: The Institute was set up in 1982 after a four-year preparatory period during which the Government of India in collaboration with the Indian Institute of Management (Ahmedabad) drew up a ten-year perspective plan.

   It was set up to specialize in forestry management and develop skills in socio-economic aspects of forestry. It seeks to develop forestry management systems, develop teachers and researchers, and train forest managers.

   The Institute is housed in its own complex which is nearing completion. Facilities include teaching rooms, dormitories, guest house, auditorium, library and computer.

6. Main areas of activity are the following:

   -research
   -development of teaching materials
   -teaching
   -development of faculty
   -consultancy
   -national and international linkages.

7. Research studies: Research at IIFM is expected to focus on:

   -management practices related to forestry
   -case studies to provide solution models
   -development of new concepts and techniques
   -development of management education

   The following broad aspects of forestry would be covered:

   -marketing
   -forest-based industries
   -transport and communication
   -information systems
   -corporate management
   -wildlife and tourism
   -ecology
   -technology and tribal development
   -social forestry and peoples participation

Five research studies have so far been undertaken:

- -Economics of trees vs. annual crops on marginal lands
- -Nationalization of minor forest produce and tribal unrest in Bihar
- -Some economic and management aspects of non-wood forest products in India
- -Promotion and management of social forestry
- -Marketing of forest products: timber and firewood

8. Publications: Since the Institute is at its initial stages, a regular publication programme has not yet taken off. However, various research studies and working papers have been brought out so far.

9. Personnel: At present, the Institute has only four faculty members and is yet to embark on its planned large-scale, phased recruitment.

   It envisages its faculty members to ultimately cover the following disciplines: policy; finance; accounting; MIS and control; conservation and production management; organizational behaviour and development; marketing; operation research, and computer technology. Covering such areas as: social forestry, wildlife, enterprise systems, plantations, tribal welfare, forest environment including human ecology.

   Besides faculty, the IIFM envisages the use of consultants and would benefit from a host of official and non-governmental institutions represented on its Board of Governors and in its list of members.

10. Details of activities: The Institute has so far conducted numerous case studies in the field, prepared several technical notes and working papers and teaching materials. It has organized two management development programmes and a number of short courses on various aspects of forestry management. It has also undertaken one major consultancy project.

11. Linkages with NGOs: While it is not possible at this stage to predict what kind of institutionalized linkages with NGOs would develop, the organisational set-up of the IIFM would appear to provide at least some room for interaction with NGOs especially in training programmes, documentation services and some consultancy.

12. Information storage and retrieval: A library and documentation service centre is being developed.

13. Servicing on requests: Not possible to comment on at this stage of the IIFM's development.

14. Communication material available: None so far.

Forest Survey of India, Dehradun (U.P.)

1. Name of Institute: Forest Survey of India, 25 Subhash Road, Dehradun (U.P.)

2. Director: Mr. D. B. Misra, I.F.S.

3. Type of Institute: Government of India institution.

4. Funding: All funding is by the Government of India (sponsored programmes are not undertaken)

5. Brief history and facilities: The Forest Survey of India (FSI) is successor to the pre-Investment Survey of Forests Resources (PISFR), which was created in 1965 as a joint project of the Government and the UNDP/FAO. The project ended in 1968, after which, the PSIFR functioned purely as a Government of India organisation to investigate and report on raw material availability and the requirement for wood-based industries within selected areas. In 1976, the National Commission on Agriculture recommended the creation of a National Forest Survey organisation to collect data of a more general nature; consequently, the PSIFR was converted into the present Forest Survey of India organisation in 1981, for the survey of national forest resources.

   The organisation has four Zonal Centres located at Shimla, Calcutta, Nagpur and Bangalore. At present FSI is housed in the Forest Research Institute campus but will move into its own building in about two years. It has no housing or guesthouse facilities, at present, but has a small library.

6. Main areas of activity: The main activities of the SFI are as follows:

   a. Inventory of various resources including area estimates, species position, consumption of wood by household/industries and wood balance.

   b. Photo interpretation and mapping using land-sat imageries with three-year cycles of repeating the exercises for preparing national vegetation maps.

   c. Training

   d. Nature studies

   e. Data processing at the Forest Research Institute's computer centre.

7. Research studies: The Institute has not started its research programmes which are expected to commence next year with focus on remote sensing.

8. Publications: The FSI does not have any regular publications, but it does publish its various inventory reports and other technical reports from time to time. It also publishes manuals of photo interpretation, national vegetation maps, and statewide maps.

9. Personnel: Most of the staff of the Institute, at present, are deputationists from various central and state government departments. However, the Institute is currently engaged in a drive to reorganise and regularise its staffing.

10. Details of activities: While a detailed list of various inventories, maps, training courses, and nature studies conducted by the Institute is available, these are not being enumerated here since all these activities fall under the broad categories outlined above.

Under its future envisaged programme, FSI intends to increase its existing staff and infrastructure by 100% so as to accomplish independent photo interpretation and data processing programmes, household demand studies, statewide remote sensing units, and an expanded training programme.

11. Linkages with NGOs: None

12. Information storage & retrieval: Internal only

13. Servicing of Requests: So far, information as required by NGOs is not specifically provided by the Institute. Certain information, however, is provided to industries, often without charge, and technical advice is also given to them. The Institute does not provide extension services or consultancies and also does not make its experts available to NGOs.

14. Communication material available: None

Environmental Planning and Co-ordination Organisation
Madhya Pradesh

1. Name of Institute: Environmental Planning and Co-ordination Organisation, Madhya Pradesh, "Kachnar" Paryavaran parisar, E-5, Arera Colony, Bhopal (Madhya Pradesh)

2. Director: Director-General

3. Type of Institution: Registered society

4. Funding: Madhya Pradesh Government, M. P. State Development Authority, project grants, consultancies,

5. Brief history and facilities: The Environmental Planning & Co-ordination Organization (EPCO) was founded in 1981 on World Environment Day, to promote environmental studies and effectively coordinate them with field agencies and to assist in solutions to specific environmental problems. While EPCO addresses general problems, its main focus is on Madhya Pradesh.

   It is housed in its own upcoming complex, and most of the construction has already been completed. Its other facilities include a library, design rooms and computer.

6. Main areas of activity: EPCO's activities are divided into six divisions, namely:

   - Research
   - Training
   - Documentation
   - Design
   - Computer
   - Environment

Under these Divisions, the EPCO conducts research and environmental impact studies, undertakes consultancy, runs a documentation centre in collaboration with the M. P. Pradushan Niwaran Mandal, and designs various buildings.

7. Research studies: EPCO is preparing an Environmental Status Report for M. P. Government. It has also undertaken environmental impact assessments of various developmental projects such as the proposed Narmada Sagar River Project and a two-year study of the ecology and control of "congress grass". In broad terms, the research by EPCO covers various aspects relating to environment in Madhya Pradesh.

8. Publications: The EPCO publishes a monthly newsletter, Madhya Pradesh Paryavaran. Besides this, it brings out proceedings of various seminars, technical reports, and research studies.

9. Personnel: EPCO's permanent faculty comprises several research and project officers, graphic designers, and architects as well as appropriate supporting staff. Besides these, the Institute relies on a large panel of consultants who work with it on various projects. These consultants are specialists in various disciplines including forestry, agriculture, water resources, fisheries, mining, and architecture.

10. Details of activities: While the research activities of EPCO have already been outlined above, the major dimensions of its other activities are briefly given below:

a. Planning: The design wing of EPCO now forms part of its Planning Division which implements various construction and landscaping projects and extends graphic assistance to development authorities. It also undertakes planning and conservation of areas around historical monuments and specific environment improvement projects such as cleaning and development of water bodies and resettlement of slums.

b. The Training Division organises conferences and seminars and is currently engaged in a large-scale expansion programme.

c. The Documentation Centre has embarked on an ambitious programme of computerised documentation along with reprographic facilities. At present, the centre subscribes to about 16 journals and has a nucleus of about 3,000 books apart from reports and informative write-ups. The Institute's Computer and Data Bank would support the proposed ENVIS centre of Madhya Pradesh.

d. The Rural Division is divided into five working cells, namely, rural housing; biogas and energy; water and air quality; environmental health and rural sanitation; social forestry and resource evaluation; and environmental population education. EPCO has designed and introduced smokeless chulhas and has drawn up the environmental status reports of six villages adopting them. It has prepared working lessons to generate environmental awareness among the rural population and holds seminars and symposia.

11. Linkages with NGOs: Since the Institute has so far concentrated on sponsored project research, at present, there appears to be few

institutionalised linkages with NGOs except in training. However, such inter-actions would easily find a place within the present organisational structure depending on the nature of programmes undertaken and the sponsorship thereof.

12. Information storage and retrieval: As already mentioned, the organisation proposes to computerise all available information and provide extensive documentation services.

13. Servicing of requests: The Centre has undertaken consultancies on sponsored researches and while this may be out of the financial reach of most NGOs, they could avail themselves of the training courses and such documentation services as could be provided by EPCO.

14. Communication material: The Institute, at present, does not bring out any media material for dissemination.

Indian Institute of Management, Bangalore

1. Name of Institute: Indian Institute of Management, Bannerghatta Road Bangalore- 560076.

2. Director: Dr. J. Philip.

3. Type of Institution: Deemed University.

4. Funding: Government of India.

5. Brief history and facilities: The IIM-B was established in 1973 by the Government of India through the Union Ministry of Education in co-operation with the Government of Karnataka, and is the third of a chain of such Institutions in the country.

   The Institute is housed in its own premises on a 150-acre campus with administrative and teaching blocks, hostel and staff quarters, library, computer systems, micro-film and micro-fiche readers, film/slide/dip projectors and a mobile communication unit.

   The library has around 58,000 books, 6,500 volumes of bound journals, 1,000 reprints and 10,000 micro-fiches.

6. Main areas of activity: The thrust of the IIM-B's perspective is socially relevant management studies as distinct from traditional management geared only to business and industry. Its main activities may be grouped as follows: teaching, research, and consultancy.

7. Research studies: The IIM-B undertakes research in macro-issues and national problems and aims towards the formulation of policies. Applied research is oriented to developing management sciences related to various sectors of the economy. Some of the important researches conducted by the IIM-B have been:

- operation of rural markets in Karnataka
- Socio-economic and environmental impact of the Ganga
  - Brahmaputra Link Canal
- rural energy consumption

Some of the major consultancy projects undertaken have been:

- system studies of Narmadasagar Complex
- evaluation of Integrated Tribal Development in Karnataka
- state of the act Report on Drought, Animal Power in India.

The IIM-B has also conducted research on various other themes related to environment and forestry.

8. Publications: Research studies, reports, and monographs.

9. Personnel: The IIM-B faculty and staff fall under the following broad disciplinary categories:

   - Agriculture and Rural Development
   - Transportation (including environmental planning)
   - Human Settlements and Environmental Studies
   - Energy and Power
   - Health and Population
   - Education
   - Quantitative Methods and Information Systems
   - Production and Operation Management
   - Organization Behaviour and Industrial Relations
   - Marketing
   - Finance
   - Economics and Social Science.

   Besides the permanent faculty as above, the IIM-B has Faculty Research Associates, visiting faculty, and research staff.

10. Details of activities: No specific details are being given here since the various activities of the IIM-B fall under the broad areas mentioned above.

11. Linkages with NGOs: While there are no institutionalized linkages as such with NGOs, there is considerable linkage through individual faculty contacts and association with various specific projects.

12. Information storage and retrieval: As mentioned above, the Institute's library has micro-film and micro-fiche facilities. The computers are not specifically used for information storage but used mostly for internal research purposes.

13. Servicing of requests: The IIM-B offers documentation services such as reprints, press-cuttings and answering of reference queries. It also publishes "Recent Additions" and "Current Press-Cutting Titles".

14. Communication material available: While the Institute has a large stock of audio-visual material, there is no specific forestry-related media material produced by it.

Indian Institute of Science: Centre for Ecological Sciences, Bangalore

1. Name of Institution: Indian Institute of Science, Bangalore - 560012.
2. Director: Convenor of Centre - Prof. Madhav Gadgil, Director of I. I. Sc. - Prof. C. N. R. Rao.

3. Type of Institution: Quasi-government.

4. Funding: The main funding is from the Ministry of Environment and Forests, India. In addition, projects are funded by the Department of Ecology and Environment, Government of Karnataka and Department of Science and Technology, India.

5. Brief history and facilities: The first batch of students was admitted in July 1911. The Institute was founded by the efforts of Jamsetji Nusserwanji Tata (1939-1904). Since then the Institute has grown into the premier centre of excellence in science and technology. Now there are over 40 different departments in the faculties of Science and Technology.

   The Centre for Ecological Sciences was established in 1983. The following facilities are available:

   a. Building: One for C. E. S. at the campus of I. I. Sc. and also rented field stations at Sirsi and Kumta in Uttara Kannada Districts of Karnataka.

   b. Housing: One apartment for visitors at the Institute Campus in Bangalore.

   c. Computer: Two HCL personal computers with one Dotmatrix and one letter quality printer. In addition, the DECK 1090 computer of the Institute is also available for use.

   d. Library: The Centre for Ecological Sciences has a departmental library with books especially on ecology and environment. The Institute has a large well-stocked library in addition, with over 2,500 journals presently being subscribed.

   e. Communications hardware: One overhead projector, one slide projector.

   f. Others: There are two jeeps and four motorcycles and 14 bicycles at the field station.

6. Main areas of activity: The Institute, as a whole, has very diverse areas of work ranging from Molecular Biophysics to Civil Engineering.

   The Centre for Ecological Sciences of I. I. Sc. is devoted to research in the fields of environment and ecology. Currently, research is being carried out in the areas of human ecology, floristics and plant ecology, insect behaviour and sociobiology, theoretical ecology and ecological energetics.

7. Research studies:

a) Human Ecology: Production and utilization of biological resources by human communities. The initial focus of these studies and eco-development activities is in the hill tracts of Uttara Kannada District of Karnataka, where an extension centre has been set up at Sirsi. The local people are involved in activities such as revegetation of degraded forests and propagation of fuel-efficient chulas.

b) Biological Diversity: Studies on diversity of plant, bird and insect communities in forest areas of Uttara Kannada.

c) Mammal Ecology: Ecology of the elephant and its interactions with people in the eastern Ghats-Nilgiris region of South India.

d) Sociobiology: Behaviour and sociobiology of wasps.

e) Floristics: Plant collections are being made and an herbarium maintained for plants of Karnataka and Nilgiris. A 3-volume flora of Karnataka is under preparation, (of which Vol. 1 has been published). C. E. S. is developing an arboretum within the campus with the indigenous forest species of Karnataka.

f) Theoretical Ecology: Various aspects of theoretical ecology are being explored including game theory.

8. Publications: The faculty members regularly contribute research articles and also review articles. The Centre is also presently involved in the production of a yearly book on the state of the environment of Karnataka.

9. Personnel:

a. Full time:

- Professors:	Madhav Gadgil (Convenor)
	C. J. Saldhana
- Lecturer:	Raghavendra Gadagkar
- Scientific Officer:	R. Sukumar
- Scientific Assistants:	D. M. Bhat
	T. V. Ramachandra

Other full-time supporting staff of nine members include Laboratory Assistants, Field Assistants and Laboratory Helpers.

b. Temporary Staff: There are 45 temporary staff members which include Research Associates, Programmers, Project Assistants and Field Assistants. In addition, there are five students enrolled for Ph. D.'s at the Centre.

10. Details of activities: Details of the research studies conducted by the Institute have been provided under section 7 of this profile. Other activities of the Institute include yearly training (usually during October-December) on Eco-development and also one on Conservation Biology.

11. Linkages with NGOs: The C. E. S. interacts extensively with various NGOs all over the country.

12. Information storage and retrieval: The Department of Environment has set up an ENVIS Centre in the Centre for Ecological Sciences for collection, storage and dissemination of information on Western Ghats and Biological Diversity. A special central data bank is also being set up in the Nilgiri Biosphere Reserve. Information collected includes books, published and unpublished reprints, papers and statistics. For easy retrieval, a computerised information system is being developed.

13. Servicing of requests: From the ENVIS Centre, information and bibliographies on different aspects of Western Ghats and biological diversity will be supplied, on request, in the near future.

14. Communication material available: Talks on environment and ecology given over All India Radio by various faculty members.

Indian Institute of Public Administration
Environmental Studies Division

1. Name of Institution: Environmental Studies Division, Indian Institute of Public Administration, Indraprastha Estate, New Delhi.

2. Director: Co-ordinator, Shekhar Singh.

3. Type of Institute: Constituent Division of the I. I. P. A., a registered society.

4. Funding: Institutional funding by the Government of India; project funds, income from consultancies, training programmes and sale of publications.

   The I. I. P. A. has its own building including residential accommodation, a library containing one of the best collections of public documents in the country, a computer and various communication hardware.

5. Brief history and facilities: The I. I. P. A. was set up in 1956 principally as a research, training and consultancy institution to support activities in Government and the public sector. The Environmental Studies Division was instituted more recently to focus, within the overall charter of the I.I.P.A., on issues relating to environmental management.

6. Main areas of activity: Research studies and training programmes in environmental management with special reference to Government policies and programmes.

7. Research studies: The Division has conducted several studies in the above broad area and specialized studies, including wildlife management and environmental impact of major river valley projects.

8. Publications: The Division has published a book, a directory, reports and working papers.

9. Personnel: The Division has four full-time faculty besides several research associates/assistants. It also avails itself of the services of a number of resource persons on a casual basis.

10. Details of activities: The various activities are within the broad areas outlined above and comprise several training programmes and workshops for NGOs from India and abroad and several research studies in environmental management and forestry. The Division, while not directly engaged in project implementation, regularly makes public its findings on environmental issues.

11. Linkages with NGOs: The Division has active linkages with NGOs especially through organising training programmes and workshops in environmental management, responding to queries for information and, in a limited way, making available its expertise to them for advice.

12. Information storage and retrieval: The Institute's library has extensive documentation and reference facilities using normative library classification. Computer systems for data storage have recently been introduced.

13. Servicing of requests: The Division regularly responds to numerous queries from NGOs and others in areas of its specialization.

14. Communication material available: While the Division is a regular user of media material, it does not produce any of its own.

National Botanical Research Institute, Lucknow

1. Name of the Institute: National Botanical Research Institute, 2, Rana Pratap Marg, Lucknow - 226001.

2. Director: Dr. P. V. Sane, M. Sc., Ph. D. (Plant Biochemistry).

3. Type of Institute: National Laboratory of the Council for Scientific and Industrial Research (CSIR).

4. Funding: By Government of India through CSIR.

5. Brief history and facilities: The NBRI was originally set up as the National Botanic Gardens (NBG) by the U. P. Government in 1948 and taken over by the CSIR in 1953. Over a period of time, the Institute placed increasing emphasis on its applied and developmental research functions, as against its botanical garden conception. Particular stress was laid on the agro-botanical study and utilisation of new vegetable raw materials of non-agricultural, non-traditional economic plants, including ornamentals. The Institute, having concentrated its efforts on multidisciplinary R and D work in basic and applied botany, with an excellent laboratory, field and library facilities, was renamed the NBRI in 1978.

   The NBRI today, apart from its own building in two complexes, has an herbarium, research laboratories, an auditorium and two research stations. In terms of accommodations, the Institute currently faces some problems and shares residential/guest facilities with other national laboratories in the city.

   The botanical garden is spread over 25 hectares, contains about 1,500 varieties and has various sections and experimental plots. The herbarium

contains about 90,000 plant specimens, fully identified and classified. The field research station at Banthra, a village about 22 kilometers from the city, is spread over 85 hectares and focuses chiefly on biomass research, man-made forests and crop trials on "usar" (alkaline) soil.

The Institute has sophisticated equipment for advance R and D work in a whole range of areas. The Institute's library contains over 37,000 volumes and reprints, and regularly subscribes to around 450 research journals. An Uptron S-1600 computer is in the process of being installed.

6. Main areas of activity: The major activities of the NBRI may be summarized as follows:

   a. R and D (including product and technology development) in:
      - germ plasm
      - non-agricultural industrial seeds
      - ornamental plants
      - pharmaceutical plants
      - other economic plants
      - ethnobotany
      - environmental sciences
      - utilisation of alkaline soil
   b. Information services
   c. Extension services
   d. Technical consultancy and advice
   e. Training
   f. Sale of assured quality and new nursery stock/flower seeds
   g. Supply of teaching and research materials
   h. Seminars/Symposia

7. Research studies: Research studies undertaken at the Institute cover a wide variety of areas and include its own research, collaborative research with other institutions and commissioned research for industry. The research at NBRI may broadly be classified as follows:

   a. Introduction, conservation and documentation of germ plasm
   b. Screening/survey of Indian flora for non-traditional plants:
      - seed gums
      - protein and lipid-rich seeds
      - biodegradable pesticides
   c. Pharmaceutical plants:
      - indigenous herbal drugs
      - medicinal plants
   d. Economic utilisation of "usar" soil
   e. Other areas, e.g., ethno-botany, pollution-resistant plants, and biomass

   It may be seen from the above that the NBRI has not hitherto placed any special emphasis on social forestry as such.

8. Publications: The NBRI regularly publishes the following:

   - Annual Report
   - Quarterly Newsletter
   - Bulletins on specific topics (128 so far)

- Bibliography of current literature in plant sciences
- Research papers (about 1300 so far)
- Miscellaneous publications for information of horticulturists, and cultivators

9. Personnel: The NBRI has 252 scientific and technical personnel engaged directly in R and D activities, out of a total staff strength of 565. S and T personnel fall under the following disciplines:

- Taxonomy, herbarium and ethno-botany
- Morphology
- Genetics and plant breeding
- Pathology (including mushrooms)
- Phytochemistry
- Physiology (including ecology)
- Lipids and pesticides (including non-edible oils)
- Agro-botany
- Horticulture (including firewood, biomass and betelvine)
- Plant introduction
- Garden and conservation

The Institute has 24 research fellows on secondment from CSIR and other institutions.

10. Details of activities: As already outlined in Section 6, the Institute engages in a range of R and D and related activities including extension, consultancy, and information services. Since research activities of the Institute are diverse and numerous, it would not be possible here to enumerate them fully.

The Institute has set up an Economic Botany Information Service (EBIS) whose potential is clearly enormous. The service brings out applied botany extracts, a substantial range of extension literature and bibliographies apart from supplying reprographs on request. While this aspect has also been covered in sections 12 and 13, the observation may be made here that, given the professional research orientation of the Institute, the information emanating from the EBIS is quite technical in nature, and thus, not always suitable for direct use by NGOs or cultivators.

The NBRI also provides technical aid and assistance on a variety of subjects chiefly:

- occurrence, distribution, identification and economic utility of plants
- garden layout, landscaping and gardening
- cultivation of aromatic/essential oils and medicinal plants
- extraction of essential oils.

The Institute regularly exchanges information, literature, plants and seeds with 250 major botanical gardens and institutes worldwide and with other research/teaching organisations. The Institute also extends direct assistance to horticulture societies and clubs while additionally selling nursery stock and seeds of various non-agricultural economic plants.

The Institute offers a variety of training courses, some of which are annual events, while others are either ad hoc or arranged on request. While most of these programmes focus on ornamentals, the Institute also organises training in such aspects as extraction and production of non-edible oils, tissue culture, plant taxonomy, and mushroom cultivation.

11. Linkages with NGOs: While the Institute does not have any specific institutionalised linkages with NGOs, its facilities and research capabilities are open to use by NGOs. The Institute can provide technical information, consultancy services and other assistance, including collaborative research, to NGOs. Given that such relationships with NGOs are not specifically part of the existing charter or parameters of functioning of the Institute, such collaboration would have to be explored on a case-to-case basis. It must be added here that so far, NGOs appear to have made few efforts to avail themselves of the Institute's expertise and facilities.

12. Information storage & retrieval:

a. Information: The NBRI specifically offers query-based information services apart from offering total access to its various general and specific publications, reprographs and reprints. The Institute regularly responds to a large number of queries for technical information.

b. Research: Collaborative research is undertaken by the Institute with a range of other research institutions and industries but there is little evidence of research collaboration with NGOs.

c. Extension: The Institute does not appear to directly provide extension services in an institutionalised manner to individual NGOs or communities but offers certain kinds of extension services to larger groups as part of some overall programmes with financial backing and other assistance of state and central Governments.

d. Training: The Institute has provisions for arranging ad hoc training courses in horticulture and other specialised subjects and while, so far, the organisation of such training programmes tailored to specific needs has not been a significant part of the Institute's activities, this too is a potential area for NGO-NBRI collaboration.

14. Communication material available: The Institute makes available popular material in a published form in English, Hindi and Urdu but does not otherwise specifically prepare media material for widespread dissemination to, and use by, NGOs and their rural constituencies.

Bombay Natural History Society

1. Name of Institute: Bombay Natural History Society
Hornbill House,
Shaheed Bhagat Singh Road
Bombay - 400023.

2. Director: President: Dr. Salim Ali
Honorary Secretary: Dr. A. N. D. Nanavati.

3. Type of Institute: Registered society.

4. Funding: Government grants, project grants and income through the sale of publications, cards, and calendars.

5. Brief history and facilities: The society was founded in 1983 and has done significant work in forest and wildlife studies. Initially a small body of bird-watchers and naturalists, it evolved into a centre of advanced research in the forefront of field research in zoology, botany and related areas. Facilities include its own building, extensive library including several rare books on Indian flora, communication hardware such as projectors, and an extensive collection of zoological and botanical specimens.

6. Main areas of activity: Studies in wildlife, ecosystem management and preservation of nature areas.

7. Research studies: The Institution has conducted numerous studies, for instance, on migration of birds and animals, ecosystems and nature areas, and bird-hits on aircraft for the Indian Air Force.

8. Publications: The Society has two quarterly publications:
   - Journal of Bombay Natural History Society
   - "Hornbill".

   The Society has also published several books, research reports, and migration studies.

9. Personnel: Besides the honorary president, vice-presidents and secretary, the society has a full-time curator and several research scientists attached to various projects. Besides its own project scientists, the society has a vast membership of over 2,000 comprising professional and amateur naturalists with a wide array of expertise which is available both to the institution for its researches as well as to NGOs and others.

10. Details of Activities: The Society engages in its own and sponsored research, offers consultancy services and engages in advocacy/publicity campaigns such as Silent Valley. It also prepares media material such as films on a variety of subjects.

11. Linkages with NGOs: The Society has extensive linkages with NGOs working broadly in the field of environment. It answers queries of a scientific/technical nature, organizes field trips to nearby areas, and undertakes nature-education programmes.

12. Information storage and retrieval: Besides normative library classification, the society has commenced on a small scale computerisation of information in certain categories.

13. Servicing of requests: The Society regularly and systematically answers queries for scientific and technical information in botany and zoology. Such queries may be addressed to the Honorary Secretary or Curator.

    Technical expertise for extension or related activities may be provided free of cost within the financial constraints of the Institution.

14. Communication material available: The society has prepared several films and other media material for dissemination.

Giri Institute of Development Studies

1. Name of the Institute: Giri Institute of Development Studies, Sector O, Aliganj Housing Scheme, Lucknow-226020.

2. Director: Dr. T. S. Papola, M. A., Ph. D. (Eco).

3. Type of Institute: Registered society.

4. Funding: By Government of India through Indian Council of Social Science Research and Government of Uttar Pradesh.

5. Brief history and facilities: The Institute was founded in 1973 as an independent research organisation and was recognised as an "institute of national status" in the field of social science research in 1977.

   The Institute owns a building with 54 rooms for faculty, research and other staff. It also has a hostel and guest rooms. The library has over 10,000 volumes and regularly subscribes to 145 journals (66 Indian and 79 foreign). The Institute also has computer facilities, an UPTRON S-800 and a microcomputer, used mainly for the Institute's research.

6. Main areas of activity: The main activities of the Institute are:

   - research studies in the field of social science on various aspects of development
   - training of academics and officials engaged in research and formulation/implementation of development plans and programmes
   - providing consultancy and professional assistance to government and other public institutions in the formulation of plans and programmes of socio-economic development.

7. Research studies: Research studies undertaken at the Institute cover a very wide range of subjects and themes. Most of them have focused on development in the state of Uttar Pradesh in its various sectors and regions. In the area of forestry, the studies undertaken are:

   a. Forest Map and Development: A Socio-Economic Study with Special Reference of Hill Areas in Uttar Pradesh.
   b. Evaluation of the Social Forestry Project in Uttar Pradesh.

   Other studies which touch on the question of forestry in relation to other economic activities and development process are:

   a. Social Dimensions of Backwardness in the Hill Areas of U.P.
   b. Development of Backward Areas with special reference to Hill Areas.
   c. Energy use in rural areas of Uttrakhand.

   Research is conducted by the Institute's Faculty and Staff, as well as by researchers from other institutions on Ph.D.-sponsored projects.

8. Publications: The Institute does not bring out any regular journal or publication. It publishes, however, in mimeograph or other forms:

- research studies
- research reports
- working papers
- books

The Faculty of the Institute contribute frequently to various books and journals.

9. Personnel: The faculty consists of three professors, five senior fellows and three fellows, with specialisations in Economics, Sociology and Political Science. The supporting research staff, consisting of research assistants and field investigators, is also drawn mainly from economics, sociology and political science. On an average, there are ten research fellows working at a particular time for their doctoral thesis. The main areas of research revolve around regional and sectoral development of U.P.

Apart from the faculty, there is no permanent roster of resource persons available to the Institute, but consultation is sought depending on the nature and area of work. Similarly, there is no permanent link between the Institute staff and outside agencies, but they are available for consultation and guidance depending on the type of help required.

10. Details of activities: While a detailed list of various research studies undertaken by or at the Institute are available, no further details are being given in this section since activities all fall under the broad categories mentioned above.

11. Linkages with NGOs: There are no formal or institutionalised linkages with NGOs. However, some faculty members working in forestry or related developmental areas maintain some informal linkages with NGOs in the field.

12. Information storage and retrieval: The Institute uses normative library classification of books and periodicals. While not specialising in forestry, the Institute has a good collection of reports, books and journals dealing with forestry, especially its socio-economic related aspects. The computer has not hitherto been used for library services but the Institute plans to do so in the future.

13. Servicing of requests for information and technical consultancy:

a. Information: The Institute is part of the ICSSR Data Consultancy Service for research scholars under which these scholars may avail themselves of the library and other facilities of the Institute. Reprographs and reprints are made available by the Institute on request to interested parties either gratis or at a nominal charge. No bibliography services are institutionally offered.

b. Research: Research guidance is offered to scholars undertaking Ph. D. research conducting sponsored studies.

c. Extension: No extension work is done by the Institute.

14. Communication material available: The Institute does not bring out any communication material for dissemination.

Forest Research Institute and Colleges, Dehradun

1. Name of the Institute: Forest Research Institute and Colleges, P. O. New Forest, Dehradun (U.P.)

2. Director: Dr. R. V. Singh, I. F. S., President, Forest Research Institute and Colleges.

3. Type of Institute: Governmental

4. Funding: By Government of India through Ministry of Environment and Forests.

5. Brief history and facilities: A small laboratory attached to the Forest School at Dehradun in 1878 was expanded into and established as the Forest Research Institute, under the Government of India, in 1906.

6. Main areas of activity: The major activities of the Institute may be broadly classified as follows:

   - Research on management of forests, utilization of forest products, social forestry, forest production and industries
   - Training, especially of forest personnel
   - Education through diploma and short-term courses
   - Maintaining of museums, xylarium and herbarium
   - Publications

7. Research studies: While State Forest Departments in all States and Union Territories have silvicultural research divisions, and a few universities have established departments for forestry research and education, the main responsibility of forest research in the country currently rests primarily with the Government of India, through the FRI and Colleges, and its regional centres.

   Research activities can be considered under the various Directorates and summarised as follows:

   a. Silvicultural research including forest management; forest ecology, forest soils, forest genetics, plant physiology, radio isotopes, chemistry of forest products, minor forest products, and various chemicals.
   b. Biological research including entomology, pathology, disease-insect survey; systematic botany, and anatomy.
   c. Research on various products including timber mechanics, wood preservation, wood seasoning, wood working and finishing, timber engineering, composite wood and cellulose and paper.
   d. Sandal research.
   e. Regional-specific researches.
   f. Forest soil-vegetation survey.
   g. Seed procurement and tree improvement.

h. Tropical pine research.
i. Environmental research including erosion surveys, soil reclamation, mine waters, watersheds under forest cover and evaluation of the effect of land use and forest cover on ground water.
j. Cash crops especially through inter-cropping.

Most of the research is conducted either at the Institute's own request or at the behest of State forest departments and industries.

8. Publications: A number of books have been published by FRI, and the following regular publications are brought out by the Institute and Colleges:

- Indian Forest Records
- Indian Forest Bulletins
- Indian Forest Leaflets
- Monographs
- Manuals
- Newsletters
- Handbooks
- Research Reports

9. Personnel: The total staff strength of the FRI and Colleges is over 3,000, comprising a multi-disciplinary group of trained forest officers and scientists embracing over 30 disciplines.

10. Details of Activities: While detailed lists of forest research and activities undertaken by the Institute are available, these cannot be enumerated here, and, in any case, these fall under the broad categories mentioned above.

11. Linkages with NGOs: At present, the Institute's interactions with NGOs usually take place through seminars, exhibitions and liaison meetings, as well as personal interaction. It must be added, however, that most institutionalised interaction in applied research at the Institution takes place with State Forest Departments and industries.

12. Information storage and retrieval: Most information is classified for storage and retrieval according to the need-based schema evolved at the Documentation and Information Section of the FRI over the years.

Use of the computer for this purpose is to be initiated in the near future with the establishment of the National Forest Computer Centre.

13. Servicing of Requests: Currently, requests for information, research and consultancy are serviced through direct personal contacts and through mail. Whereas most such servicing is done by the Institute for State Governments and Industries, it can also be done for the NGOs. While there is little such servicing to NGOs at present, except through individual contacts, the Institute feels that there is great scope for expanding this interaction.

14. Communication Material Available: The Institute produces and uses a variety of communication material such as exhibitions, leaflets and bulletins, as well as films.

Indian Law Institute, Delhi

1. Name of the Institute: Indian Law Institute,
   Bhagwan Das Road, New Delhi-110001
2. Director: Research and Planning: Prof.Upendra Baxi
   Administration: Dr.Alice Jacob

3. Type of Institute: Registered society

4. Funding: Government of India grants, project grants from national and international agencies, income from courses, consultancy, rent of premises, and sale of publications.

5. Brief history and facilities: The Institute was founded in 1956, as a private society, to conduct and promote research on all aspects of Indian Law with special thrust in legal reforms and laws relating to poverty alleviation.

   The Institute is housed in its own building with teaching rooms, residential quarters, a guesthouse, and a library which is considered to be the largest of its kind in Asia. The library has over 50,000 volumes and regularly subscribes to 478 periodicals, both national and international. It has a regular exchange programme of 135 journals.

   The Institute is soon to acquire its own computer. At present, it has communication and reprograph hardware.

   The Institute will embark on a large expansion programme for the next year with a new programme on media service in collaboration with the Indian National Trust for Art and cultural Heritage (INTACH) and the Jamia Millia University's Mass Communication Centre.

6. Main Areas of Activity: The major activities of the Institute may be broadly classified as:

   a. Research
   b. Education (The Institute conducts recognised diploma courses on both a regular and short duration)
   c. Consultancy Services

7. Research studies: As already mentioned above, research studies undertaken at the Institute, while covering a wide range of subjects, has two major areas of focus, i.e., legal reform and poverty alleviation. The Institute has conducted significant research on common property resources, environment (since 1978), forestry (since 1973) and more recently, on wastelands in collaboration with the National Wasteland Development Board, with whom the Institute is currently re-evaluating the laws pertaining to forestry and wastelands. Besides the above National Resources Programme, the forthcoming Media Centre will soon have a special focus on environment.

8. Publications: The Institute has three regular publications, namely:

   a. Annual Survey of Indian Law
   b. Quarterly Journal entitled, "Journal of Indian Law"
   c. Half-yearly "Index to Indian Legal Periodicals"

The Annual Survey and the Quarterly Journal are nationally and internationally reputed. The Index locates and records all published legal articles in journals and magazines.

The Institute also regularly publishes various project reports and books based on research. It also proposes to expand its publication programme.

9. Personnel: The permanent Research Faculty at the Institute comprises five scholars with administrative and support staff. Apart from these, there are about 25 researchers working on sponsored projects in collaboration with affiliated or part-time researchers, or as consultants to the Institute. While at present, the entire faculty comprises legal specialists, the Institute proposes to bring in scholars from other disciplines as well.

10. Details of activities: The research at the Institute comprises its own studies, commissioned projects mostly from governmental agencies and projects in collaboration with the Department of Environment and the Wasteland Development Board, NGO organisations such as the Consumers Education and Research Centre, and the Voluntary Health Association of India. The Institute has a standing consultancy with the Department of Environment and the NWDB.

The Institute conducts regular diploma courses, as well as short-duration courses, under its educational programme. The Institute also offers use of its facilities for visiting scholars and its library provides bibliography services on request.

11. Linkages with NGOs: The Institute has active linkages with NGOs and its facilities are specifically open to such organisations. In fact, NGOs and other concerned individuals can avail themselves of free legal advice from the Institute, particularly solicitors services such as backgrounding and petition formulation. At present, the Institution feels that there is inadequate demand for these services from the NGOs and the scope of these services could be improved and expanded if greater demand pressure were to exist. The terms and conditions for consultancy and legal advice are extremely flexible and discretionary and while, of course, most NGOs could not afford the large consultancy resources that the Institute can offer, legal information and advice is extended freely to representatives of the under-privileged sections of Society.

12. Information storage and retrieval: The Institute currently uses normative library classification and, given the expertise available, is able to retrieve information to a reasonable degree of satisfaction, in response to specific queries. It recognises, however, that with greater demand for information and consultancy services, need-based systems of classification and retrieval would have to be evolved.

The Institute is also engaged in studies on computerisation of some aspects of the Indian law linked to the National Information Centre.

13. Servicing of Requests: As explained above, the Institute regularly responds, and is keen to respond increasingly, to requests for information and consultancy services on legal aspects pertaining to natural resources and environment. The Institute at present receives a large number of such

requests every year, but notes that many, if not most, of these requests are made to various members of the faculty on an individual basis, rather than on an institutionalised basis. The Institute, therefore, seeks to strengthen institutionalised servicing of requests of NGOs and other concerned individuals and would like the NGOs to more actively utilise these services.

14. Communication material available: While the Institute has not hitherto produced communication material, many of its faculty have participated in media programmes for radio and television. In its envisaged media service programme, commencing in 1987, the Institute would produce a large amount of media material, for instance, educational programmes for the UGC TV programmes and Indra Gandhi Open University programmes.

Central Arid Zone Research Institute, Jodhpur

1. Name of the Institute: Central Arid Zone Research Institute, Jodhpur - 342003, (Rajasthan)

2. Director: Dr. K. N. K. Chauhan, Head, Extension Division

3. Type of Institute: Governmental, under the Indian Council of Agricultural Research (ICAR)

4. Funding: By Government of India through ICAR.

5. Brief history and facilities: The Institute was established in 1952 as the Desert Afforestation Research Station, was re-designated the Desert Afforestation and Soil Conservation Station, in 1957, and finally as the CAZRI in 1959. The CAZRI comprises eight Divisions, three Experimental Research Farms, 12 Range Management and Soil Conservation Centres, situated in different bioclimatic zones, and a few forestry areas and nurseries.

   The facilities of the Institute, besides its research farms, various centres and afforestation/sand dune fixation sites, include three spacious laboratories and office buildings, hostel and guest room facilities, an auditorium and a fully-equipped conference hall.

   The library has a collection of around 14,000 books, 150 Indian and 200 foreign journals and over a thousand reprints and numerous scientific reports on Arid Zone Research.

   The Institute has communication hardware such as film and slide projectors, overhead projectors, and a P/A system.

   The Institute's museum has specimens, models, photographs and charts depicting the technologies evolved here. An ecological herbarium, mainly representing flora of Western Rajasthan, has over 6,500 sheets.

6. Main areas of activity: The major activities of the Institute are:

   - Research
   - Extension
   - Training

- Publications
- Seminars and Symposia
- Advisory/consultancy service
- Information and Publicity

Its eight Divisions are organized as follows:

- Basic Resources Studies
- Plant Studies
- Animal Studies
- Wind Power & Solar Energy Utilization Studies
- Soil-water-plant relationship studies
- Human Factor Studies
- Extension & Training
- Agricultural Economics and Statistics

7. Research studies: Research in the above eight Divisions cover such aspects as:

a. Integrated surveys of natural resources to assess potentials and suggest optimum utilization, besides monitoring desertification.

b. Evolving package for the practice of increasing productivity of crops, grasses, pastures, horticultural and forestry plants.

c. Adaptive mechanisms and nutritional requirements of desert animals, especially rodents, with a view to developing suitable control measures. Water/energy balances of plants, agro-climatic reports, wind erosion studies and design development of prototypes for wind and solar power devices.

d. Evolving suitable technologies for management of arid lands, consistent with maintenance of soil productivity and ecological balance.

e. Social and anthropological studies including environmental perceptions, sedentarization of nomadic population.

f. Economic policies for development of marginal and sub-marginal lands and livestock enterprises.

The following All India coordinated projects of the ICAR are also located at the Institute :

a. Dryland agriculture
b. Millets improvement project
c. Water management and soil salinity
d. Rodent control
e. Operational research in solar energy utilization in agriculture
f. Operational research on drip and sprinkler irrigation and arid land management

8. Publications: The Institute publishes a variety of books, bulletins, monographs, technical reports, scientific papers and extension bulletins aimed at growers.

9. Personnel: The Institute has a large research staff with specialisation in a variety of disciplines both in the sciences and social sciences.

10. Details of activities: The various activities undertaken by the Institute are too numerous to be listed here. These ,in any case, fall under the broad categories outlined above. It may, however, be mentioned that the Institute regularly holds a number of exhibitions and melas aimed at farmers and cultivators, and publicises its research findings through a variety of popular media such as newspapers and radio.

    Mention may also be made of the fact that the Institute's extension activities are varied and numerous and include the supply of seeds and seedlings of grasses and fruit trees, mainly to various forest and developmental agencies all over the country. The Institute also has an extensive lab-to-land programme under which transfer-technology relating to crops, horticulture, live-stock and tree plantation in undertaken. Training is also imparted to both farmers and developmental personnel.

11. Linkages with NGOs: While the Institute does not have any specific regular linkages with NGOs, its facilities and research capabilities are open to such agencies. The Institute could provide technical information, advisory services or even collaborative research. It must be noted that so far, the Institute's extension activities have been directed at growers and farmers directly, rather than through voluntary organizations.

12. Information storage and retrieval: At present, the Institute does not utilise any special systems, e.g., a computer for information storage and retrieval, and does not appear to have encountered any specific problem due to its vast personnel resources.

13. Servicing of requests: As mentioned above, most of the Institute's activities are directed towards governmental institutions and farmers, and form part of various developmental programmes taken up from time to time. Advisory services of the Institute have so far been made available mainly to governmental agencies. While there is no formal bar against extending the Institute's activities to servicing of requests by NGOs and others, this has yet to take an institutionalised form or even form a large part of the institute's activities.

14. Communication material available: The Institute has a wide variety of communication material, particularly extension literature in Hindi, posters and exhibits, for exhibitions, and films.

The following Section gives brief profiles of Forestry-related Departments at three Universities. These profiles do not necessarily follow the same standardised format as for the "Official" Agencies profiled in the previous Section, but contain some pertinent information related to the broad categories of interest in the form adopted for profiling "Official" Agencies.

Garhwal University, Srinagar (U.P.)

1. Name of the Institute: Department of Botany, Garhwal University, Srinagar (U.P)

2. Head: Dr. G. S. Paliwal

3. Funding: UGC, State Government and Department of Environment, Government of India

4. Brief history and facilities: The Department was established in 1976-77. It has a small departmental library and access to the University's library. It also has a slide projector and access to the university's teaching rooms, hostel and guest accommodation.

5. Main areas of activity: The Department focuses on morphology, anatomy, ecology, ethno-botany, mycology and plant pathology.

   It has conducted specific research studies on ethno-botany in the surrounding areas and on the effects of fire on grasslands.

6. Faculty: The Faculty Department comprises one professor, three readers and five lecturers all with doctoral qualifications in their respective botanical disciplines.

7. Publications: None

8. Interaction with NGOs: NGOs interact informally with the Department and Faculty and avail themselves of their expertise.

University of Garhwal, Srinagar (U.P.)

1. Name of the Institute: Department of Forestry, University of Garhwal, Srinagar (U.P)

2. Head: Dr. P. P. Nautyal, M.Sc., D. Phil. Lecturer

3. Main Areas of Work: The Department offers undergraduate courses in forestry and conducts research.

   The University has been selected by the Department of the Environment, Government of India, under the Eco-Development Scheme, for strengthening the Institution's infrastructure. The programme of this Department focuses on problems of high altitude plant life, i.e., reproductive biology, studies on adaptation and reproductivity. In addition, the programme also envisages studies on biomass production, conservation of endangered species, cultivation and management of herbal and medicinal flora in the region.

   Various Eco-development projects are being taken up, such as:

   a. Micro catchment water schemes of the region.
   b. Resources survey studies of environmental degradation patterns and introduction of social forestry programmes.
   c. Seed Bank for agro and social forestry in the Garhwal region.

G.B. Pant Agricultural University, Pantnagar (U.P.)

1. Name of the Institute: Department of Agro-Forestry, G.B. Pant Agricultural University, Pantnagar (U.P)

2. Head: Dr. O. Prakash, Senior Research Officer

3. Main Activities: The Department is engaged in a variety of research projects and action-oriented eco-development projects. The Hill Campus at Rani Chauri was established in 1971 to incorporate research programmes on hill crops, horticultural crops and forestry.

   The University's library has around 250,000 volumes and regularly subscribes to around 1,800 periodicals.

   The Faculty comprises senior researchers with specialisation in Agronomy, Horticulture and Soil Sciences and several senior technical assistants, and a member of the IFS as a Forestry Consultant.

   The Department is implementing an All-India coordinated research project on agro-forestry, sponsored by the Indian Council for Agricultural Research. The action-oriented eco-development projects sponsored by the Department of Environment, Government of India include:

   a. Expansion in the area of fruit trees through exploitation of indigenous species.

   b. Social forestry for rehabilitation of degraded community lands in U. P. Hills.

PREPARATORY MEETING ON FORESTRY INFORMATION SYSTEM FOR NGOs

17 April, 1986

1) The information meeting, held at the residence of Mr. Thomas Mathew, Director, Environmental Services Group (ESG), brought together representatives from the following organisations - ISI, VHAI, PRIA, SESS, ESG and UNDP (list annexed).

2) In view of the forthcoming consultation in September, the intent of this preparatory meeting was to discuss the information needs of, and resources available to, the NGOs in India. The ways in which these information resources could be further strengthened was also discussed. As a first step towards identifying the information needs of the NGOs, an information questionnaire was prepared to be sent out to about 100 NGOs in the field. This questionnaire was presented in the meeting and the recommendations of the members were incorporated. Based on the responses of the NGOs to the questionnaire (copy enclosed) a report identifying the information needs and the manner in which these are being currently addressed, will be prepared.

3) In addition to the usual information needs of the NGOs, viz. information about other NGOs, about government programmes, about funding, and about technical and legal matters, it was suggested that NGOs frequently need information about technical experts and consultants, especially as it is very difficult to give useful technical advice without experts actually visiting the site. Such information is not very systematically organised and is therefore not very easy to obtain for the NGOs. It was felt that a strengthening of the information capability for NGOs must pay special attention to this subject. However, for the information service to be useful, it must go beyond merely providing names and addresses of technical experts and consultants. It must also provide information regarding the ways of actually getting these people to the field to share their technical expertise with the NGOs there.

4) In terms of the information resources available to the NGOs in the country, the members felt that these needs were far from satisfied. This observation was significant because all the groups at the meeting are involved in disseminating information to the NGOs in the field. They all felt that answering queries and providing relevant documents to NGOs in the field placed an extra burden on their already strained financial and personnel resources. Information dissemination is not seen as a mainline function by any of the NGOs working in forestry in India. In fact, the information resources that are available with them are geared not for dissemination but for use in their own research and operations. Consequently, answering queries from the NGOs in the field is usually done as a peripheral activity when, and to the extent, possible.

5) Based on these observations and the experience of the members, it was felt that there was a real need to strengthen and systematise the dissemination of information to the NGOs. Two methods of doing this were suggested. One was to strengthen an existing group that is already involved in information dissemination work in the area of environment in general and forestry in

particular. The major advantage in doing this was the saving in time and resources by building on the infrastructure that was already available. ESG was seen as one of the potential groups for such strengthening.

6) The other method suggested was the creation of a new group for the explicit function of providing information to the NGOs in the field. This is especially appropriate in our current situation where no group is primarily involved in information collection and dissemination. This new group could be formed of representatives of various NGOs, and information system experts. They would constitute the governing council.

7) The functions of this information service must be twofold. At one level it must act as a referral system in informing NGOs about where they can get the information required by them. In this sense it would act more as a postbox in organising queries in terms of what is available and either sending out this information itself or merely providing access to it. At another level, this group must act as an information resource centre itself in storing documents and literature that may be required frequently by the NGOs. However, this second capability is something that will grow over a period of time and not be something that the group could start with.

8) As a preliminary step, the members suggested tentative estimates for the staffing and personnel requirements of such an information group. An initial annual budget of Rs. 1 lakh was suggested. This does not include the cost of the initial computer hardware and other equipment. The initial funding could be raised from grants but soon the service must start earning its own resources through specific sale of information to large NGOs and to international organisations and through taking up specific projects.

In terms of the personnel requirements, it was felt that after the initial establishment of the group, one full time person along with two or three part-time people will suffice. High school and college students were mentioned as being suitable candidates for the part-time jobs and for undertaking field visits to gather information on the NGOs.

9) In undertaking this process, one member suggested that the information resources available with the government and its affiliated institutions must not be ignored. It was, however, recognised that though the information available with the government and its institutions was indeed substantial, it was not always directly useful to the NGOs.

10) It was unanimously decided to attempt investigate the formation of a new group to handle the forestry information system. As a preparatory to this, it was decided to request the society for Economic and Social Studies to undertake the survey of information needs and to prepare a paper for feeding into the proposed consultation, which would outline the setting up of this information system.

Annexure I

LIST OF PARTICIPANTS

Ms. Sunita Dhar
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Ms. Chandra Kannapiran
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C-14, Community Centre
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Dr. Walter Fernandes
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Mr. Sanjiv Dhir
UNDP
New York

Mr. Shekhar Singh
UNDP
New Delhi

Annexure II

FORESTRY INFORMATION SYSTEM FOR NGOs

The collection and dissemination of information useful to NGOs is seen as a prerequisite to effective NGO efforts. This is especially true in the area of forestry where the involvement of most NGOs is recent and their work involves the understanding of various technical issues. The requirement of significant quantities of land for afforestation programmes also often throws up questions of law and precedent.

As part of an effort to develop such an information system in India, it becomes important to catalogue the information needs of NGOs and the manner in which these are currently being satisfied. This would help identify information gaps that might exist with regard to both availability of relevant information and its dissemination.

The attached questionnaire attempts to collect relevant facts regarding the types of information you require and have attempted to procure, your experience in terms of the satisfaction of these information needs and your views on what needs to be done to strengthen the existing information systems.

We have deliberately kept the questionnaire brief in order to encourage people to reply, and reply promptly. As your response would go a long way in helping design an appropriate information system, we do hope you will take some time out to send us your inputs.

FISNO QUESTIONNAIRE

Name of Organisation _____
Full Postal Address _____
_____

1. What types of forestry information do you require for your work? Please list your requirements below:

a) _____
b) _____
c) _____
d) _____
e) _____
f) _____
g) _____
h) _____
i) _____
j) _____

(NB: Some of the types required could be on Legal Aspects, Government programmes and policies, sources of funding, technical aspects, work and experiences of other NGOs, published material, references, availability of media programmes, etc).

2. Which of your needs as listed in the earlier question have been satisfied, by whom, to what extent and how? Please give your answer in the format below:

Type of information needed	Sources approached, if any	Extent to which the need was met:	
		In quality ***	In Time remarks Yes/No
a)			
b)			
c)			
d)			
e)			
f)			
g)			
h)			
i)			
j)			

*** Indicate satisfactory-S, or unsatisfactory - U.

3. Please list the areas in which you had difficulty or found it impossible to get information. What are the reasons, in your opinion, for not getting appropriate information in these areas?

4. Based on your experience in getting your information needs satisfied, what do you consider to be the major shortcoming of the available information system on forestry?

5. Please give detailed suggestions on how to set up and run a more effective forestry information system, indicating the areas which should get priority, nature of information that needs to be collected for easy access and dissemination and the form in which it needs to be organised to meet the needs of the NGOs. Attach additional sheets if necessary.

PREPARATORY MEETING ON THE ROLE OF MASS MEDIA IN SUPPORTING NGO EFFORTS IN FORESTRY

30 April, 1986

1. A preparatory meeting to discuss the role of mass media in supporting NGO efforts in forestry was convened on Wednesday, 30 April, 1986, at the UNDP Conference Hall. The following attended:

Mr. Avik Ghosh, CENDIT, New Delhi
Mr. Chidananda Dasgupta, INTACH, New Delhi
Ms. Peggy Mohan, Jamia Milia Islamia, New Delhi
Prof. (Ms) Madhu Malik, Communication Expert, New Delhi
Mr. Theodore Baskaran, Media Expert, New Delhi
Ms. Jennifer Haslett, UNDP, New Delhi
Ms. Jill Carr-Harris, UN/NGLS, New York
Mr. Shekhar Sing, UNDP, New Delhi

2. The participants were given a brief background of the UNDP/NGLS efforts in India concerning NGOs and forestry. It was explained that this was one of a series of preparatory meetings being held to have preliminary discussions on some of the important areas and issues concerning the NGOs' work in forestry.

3. More specifically, the effort at these preparatory meetings was:

a) to review the current situation
b) to identify the major problem areas
c) to discuss possible strategies of tackling these problem areas
d) to identify the processes and persons or groups most suited to take the relevant issues to the proposed NGOs' consultation on Social Forestry, scheduled for September, 1986

4. The concern, it was clarified, was to consider in this preparatory meeting different forms of mass media: audio/visual, written, performed, and to look at both traditional and modern media and the possible interface between the two.

5. As a support to NGO efforts in forestry, mass media could be used:

a) To raise awareness among the urban and the rural populace for a need to conserve the existing forest and to plant more trees. It could also help raise awareness regarding the inequitable or irrational use of forest resources.
b) To project and publicise protests by groups of people regarding the destruction or irrational use of the forest resources.
c) As a means of imparting training in tree planting or forest, soil and water conservation for NGOs and the populace.
d) To disseminate information about NGOs, their work and concerns, to other NGOs and to the general public, in order to remove the sense of isolation that individual NGOs might feel by making them aware of other similar efforts being undertaken by groups elsewhere. This could also help project the cause for which these NGOs are working, and contribute to their credibility and acceptance.

6. It was pointed out that the effectiveness with which NGOs could use mass-media to help their work was significantly determined by their own familiarity with the medium and their ability to intelligently integrate it with their activities.

It was recommended that interested NGOs should have the opportunity of receiving training in the use of mass-media.

7. On the question of developing mass-media material, in the form of audio/visual programmes or films, among others, it was felt that the nature and content of the material should be determined on the basis of felt needs among the grass-roots NGOs.

It was recommended that the top down approach, where an organisation produces some film or other material on their own and then disseminates it down to grass roots groups, should be discouraged. Instead, such organizations should interact with concerned grass roots groups and develop the material in close consultation with them. It was felt that a pilot project should be launched to perfect and demonstrate this approach.

8. The possibility of using traditional and folk forms of communication was also discussed. It was felt that there were various inherent advantages in such forms as they not only linked up with the traditions of the region but were also innovative and often genuinely creative.

It was however pointed out that the forms selected to convey messages have to be chosen with special care as many of the traditional forms have inherent moods which might not be suitable.

Besides, most traditional forms are not didactic and messages, therefore, have to be implicit rather than explicit.

Despite other problems, like problems in replicating such forms for wider dissemination and their essential local nature, it was felt that in many parts of the country there is an adequately rich and versatile tradition of folk forms of communication to justify its use. It was also felt that efforts can be made to successfully interface traditional forms with the modern forms and for example films or recordings of some of the programmes could be made and used more extensively.

It was recommended that a kit might be put together which indicates the basic steps that NGOs could take if they want to identify some genuine folk groups in their area and involve them in spreading the forestry message. This kit could also contain a list of the more suitable folk forms indicating the regions in which they are prevalent.

It was also recommended that the UN/NGLS try and get information regarding the use of traditional forms of communication by NGOs in other countries.

9. On the question of gathering information in this area, to feed into the proposed consultation, it was recommended that instead of a paper a series of meetings with NGOs should be organised and their perceptions collected into a document for discussion.

PREPARATORY MEETING ON TREE AWARENESS PROGRAMMES
14 July, 1986

1. The meeting was convened at the campus of VIKSAT, Ahmedabad. The following were present:

1. Ms. Mamta Pandya, C.E.E., Ahmedabad
2. Mr. Vipul Sangoi, Designer, New Delhi
3. Mr. L.V.R. Reddy, AFPRO, Ahmednagar
4. Mr. Shiraz A Wajir, GEAG, Gorakhpur
5. Ms. Anila R. Dholakia, SEWA, Ahmedabad
6. Mr. Ramesh Uttam, CEE, Ahmedabad
7. Mr. C.J. Sanchorwala, VASCSC, Ahmedabad
8. Ms. Indu Capoor, CHETNA, Ahmedabad
9. Mr. Vivek Khadpekar, CEE, Ahmedabad
10. Mr. K. Shivram, CEE, Ahmedabad
11. Ms. Meena Raghunathan, CEE, Ahmedabad
12. Mr. Bhalani D.L., VIKSAT, Ahmedabad
13. Mr. A.R. Pastakia, Behavioural Science Centre, Ahmedabad
14. Mr. G. Raju, VIKSAT, Ahmedabad
15. Dr. Siddharaj Solanki, Tribal Research and Training Institute, Ahmedabad.
16. Mr. Mayank A. Joshi, VIKSAT, Ahmedabad
17. Mr. Deepak V. Suchde , Shree Gramjyoti, Kheda
18. Mr. Kiran Desai, VIKSAT, Ahmedabad
19. Mr. Harivallabh Parikh, Anand Niketan Ashram, Rangpur
20. Ms. Nalini Kumar, UNDP, New Delhi
21. Mr. Shekhar Singh, UNDP, New Delhi
22. Mr. Kartikeya Sarabhai, VIKSAT, Ahmedabad

2. At the inception, the participants were given a brief background of the preparatory meeting and of the forthcoming NGOs' consultation on Social Forestry. It was suggested that in this preparatory meeting we could perhaps try and take up the following issues:

a) What constitutes tree awareness programmes and at whom are they aimed.
b) What is the current status of efforts at promoting tree awareness.
c) What are the problems, it any, with the present efforts at promoting tree awareness.
d) How best can these problems be tackled.
e) How can the UN agencies assist in this work

3. There then followed a sharing of experiences and the various NGO representatives briefly described their work.

Mr. Kiran Desai of VIKSAT gave a brief description of VIKSAT's wasteland development programme. The overall goal of the programme is to ensure greater people's participation in wasteland afforestation. They work with NGOs providing the latter with information regarding resources availability, government schemes and available technologies. They also conduct training programmes, work for policy intervention and have initiated tree growers' cooperatives for the purpose of demonstration. Mr. Desai pointed out that either people in the villages have considerable awareness about tree growing or it would not be very difficult to bring about awareness in villages. What is more urgent and difficult is to make the bureaucrats aware about what their role is in afforestation programmes.

Mr. A.R. Pastakia of the Behavioural Science Centre, Ahmedabad said that in the area in which they are working awareness is quite high. What, according to him, is needed to involve people in afforestation is to provide finance and managerial skills. He described the Centre's work in the Bhal area, Cambay district, of Gujarat. They are working with the marginal farmers, mostly Scheduled Castes, through cooperatives and tree growing is one of the activities that the cooperatives have undertaken. The Centre provides managerial support, technical support and training to the 7 cooperatives which have been growing trees on about 1300 acres of wastelands.

Ms. Anila Dholakia of SEWA, Ahmedabad spoke of SEWA's work in the villages in the Nalsarovar area to generate non-agricultural employment. Fodder shortage, she said, was becoming acute.

Training is an essential part of social forestry programmes. She emphasised the need for ongoing training and felt that it should be reinforced. SEWA is promoting social forestry along with smokeless chulha introduction in villages.

Mr. Shiraz A. Wajir of the Environmental Action Group, Gorakhpur said that they are working with students and the youth and that though they are not directly concerned with afforestation it is undertaken as a complementary programme. They get to social afforestation through other programmes. In their training programmes afforestation is discussed, and they are preparing a kit of educational material on afforestation.

Mr. L.V.R. Reddy, AFPRO, Ahmednagar informed the participants that AFPRO has concerned itself with land and water management. They also conduct training programmes.

According to Mr. Reddy, creating awareness about trees is not the biggest problem, but the selection of tree species for various soil types is the most difficult problem. He said that not much research is undertaken, nor is material available on indigenous species of trees.

Mr. Harivallabh Parikh, Anand Niketan Ashram, Rangpur, described the tree growing programmes that the Ashram as been undertaking. He argued that the real need is to have many programmes of afforestation. No programme can succeed unless it is by the people. According to him tree-patta schemes could be very useful. He felt that if eucalyptus, which grows fast, had not been grown we probably might not have succeeded much. This had a good demonstration effect. He said that if NGOs were given inputs and new technologies, they would do a good job of including people in afforestation programmes.

Mr. Deepak Suchde, Sri Gram Jyoti, Bala Sinor described the activities of their organisation. They have asked for 140 acres of Panchayat land to carry out afforestation.

Mr. Kartikeya Sarabhai, VIKSAT, Ahmedabad said that there is a need for educational efforts in specific areas for specific tasks rather than general awareness.

4. In the discussions that followed, the following points emerged:

a) Tree awareness programmes should inculcate in individuals an appreciation of the importance of trees to ecological and economic well-being.

b) They should also indicate ways in which individuals and communities can conserve their forests and afforest their barren lands.

c) Most important, they should communicate the dimensions of the crisis that we are facing due to rampant deforestation, and the urgency to stop and reverse this trend.

d) Though some efforts at raising tree awareness are being undertaken, much more work needs to be done, and in a decentralised manner.

e) It is easier to raise people's consciousness about trees, when their planting and conservation directly benefits these very people. However, very often people have to be involved in conservation and afforestation work which is for the benefit of the society at large and only indirectly benefits any specific group. It is in such cases that the raising of awareness is both most crucial and very difficult.

f) Various groups of people need to be made more aware of trees, these include:

- urban dwellers
- rural elite
- males, especially in rural areas
- activists and social workers, especially those working in activities other than forestry
- government officials
- college and school students.

g) Through this awareness it is hoped that:

- there would be a greater political mobilisation in support of forest conservation and regeneration
- there would be better support for NGOs working at conservation and reforestation
- there would be a better understanding about the resources available and the infrastructure existing to support forest related activities.

h) Tree awareness programmes must be educative and help the people to see all the options available to them. Such programmes should not try and impose any one option on the people.

5. It was felt that the methodology for promoting tree awareness programmes should involve the identifying and strengthening of existing institutions and promoting decentralised institutional support. It was pointed out that though the experiences and work of various NGOs could very well inspire and guide others, very little of this got documented. The reasons for this was mainly the inability of activists to find the time to document their own activities and experiences.

It was, therefore, felt that institutional support could include an arrangement by which competent individuals could associate with activist groups with the purpose of documenting their work and experiences and making this available to all those interested.

6. It was felt that UN agencies could help by:

a) Helping set up the infrastructure for some of these efforts.
b) Arranging for the dissemination of relevant technical information in a form usable at grass-roots level.
c) Conducting research in some of the areas of interest to grassroots NGOs. It was mentioned that despite an extended debate on the eucalyptus, there still existed no clarity as to its pros and cons.
d) Helping set up an information system for forestry.
e) Making available audio-visual and other relevant equipment to grass-roots NGOs for their use in tree awareness programmes.

7. It was decided to request VIKSAT to prepare a detailed document on tree awareness programmes for the forthcoming consultation.

NGO CONSULTATION ON SOCIAL FORESTRY

BANGALORE

8 TO 11 September, 1986

REPORT

Supported by the

UNITED NATIONS DEVELOPMENT PROGRAMME

FOOD AND AGRICULTURE ORGANISATION

WORLD FOOD PROGRAMME

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Preface

This report seeks to give the context within which the idea of holding an NGO consultation on Social Forestry developed, and to trace the thinking and preparatory work prior to the consultation.

It then goes on to list the recommendations made at the consultation, and briefly outlines the ideas behind these recommendations.

It finally indicates the nature of the follow-up envisaged at the consultation.

Though the recommendations contained in this report are approved by a majority of the participants, needless to say there were differing opinions from a minority on almost all the issues discussed.

The introduction, the portions outlining the background to the consultation, the report on the consultation itself and the introductions to the various sections have been put together in keeping with the spirit of the consultation and have been approved by the NGO advisory committee.

The recommendations themselves have been edited, exclusively for the sake of clarity and brevity, and the final version has also been approved by the NGO advisory committee before being published.

I am sure I reflect the sentiments of the consultation participants when I say that thanks are due to the UN NGLS, the UNDP, the FAO and the WFP for supporting this consultation at the local level and for making it possible to have a meeting of diverse experiences and ideas. Our thanks are also due to the Government of India and to the National Wasteland Development Board for giving permission to hold this consultation and for participating in it.

I do not think this consultation would have been possible without the untiring efforts of Ms. Jill Carr-Harris (UN NGLS), Ms. Jennifer Haslett (UNDP), Mr. Michael Smith (UNDP) and Mr. Thomas Mathew (ESG). I would also like to thank members of the NGO advisory committee who always gave generously of their time and worked together to design the consultation and to ensure its proper conduct.

Indian Institute of Public
Administration
New Delhi

Shekhar Singh

Introduction

The concern for deforestation and the resultant social deprivation and environmental degradation has been growing in India and the world over in the last decade. Hanging over the world, especially in countries of the South, is the threat of deteriorating soils and erratic water supply seriously afflicting the subsistence agriculture of poor farmers. In 1976, the Agricultural Commission Report took cognizance of India's fast disappearing forests and recommended the launching of a social forestry programme, aimed at meeting fuel, fodder and other forest based needs of the rural people.

Though most states adopted the social forestry programme and a substantial amount of foreign funds became available for its implementation, unfortunately there did not seem to be any significant improvement in either the condition of India's forests or of the poor people who live in and around them. Satellite imagery established that India's forest cover had been reduced to under 12% of its surface area by 1985 and that India was losing forest cover at the rate of 1.3 million hectares per year. In fact, at this rate of denudation, the remaining 37 million hectares of forests would all disappear within the next 30 years.

To add to this is the rapidly depleting flow of fuelwood, fodder, and other forest based essentials to an already impoverished humanity. In fact, diminishing forests result in degraded land which forces many to turn to the forests for subsistence, thereby further degrading the forests and perpetuating a vicious circle.

Invariably behind this predicament and as a major reason for it is the urban and industrial demand for forest-based products and the inequitable distribution of land and other productive resources.

Social Forestry needs to be looked at, at least in India, as a means of reversing this self destructive trend. It should aim at redistributing the productive resources of the country to ensure basic necessities to the poorest segments of society, either directly or through the income generated out of Social Forestry. However, if it is to achieve any of this, it must involve local communities and the poorest of the poor in its planning and implementation. The people, and people's organisations, must spearhead this movement and must be involved in defining it, planning it, implementing it and monitoring and evaluating it.

Apart from the inability, and often the unwillingness, of Government organisations and functionaries to seriously implement such programmes, it has been shown again and again that the Government machinery is also an inappropriate one for taking up such programmes. Members of the bureaucracy can seldom elicit either the views or the cooperation of local communities. Programmes suffering from these handicaps are rarely appropriate and implementable.

Unfortunately, a large part of the Social Forestry programmes in the last decade have been designed and implemented by Government agencies with little involvement of the people. This has led to a situation where the benefits of these programmes almost never go to the poor people.

Background to the Consultation

With these issues in mind, beginning in July, 1985, a group of NGOs active in the field of Social Forestry had a series of informal meetings together and with representatives of the United Nations Non- Governmental Liaison Service (NGLS) to evolve a method by which they could exchange their ideas and experiences and work towards a consensus both in terms of what social forestry means and how it should be implemented. These informal meetings led to the realisation that what was needed, as a first step, was a larger and more representative formal meeting (consultation) of NGOs, Government and UN representatives and other concerned persons. It was also felt that for such a meeting to be fruitful and to be the start of something appropriate and sustainable, a certain amount of preparatory work needed to be done.

The UNDP, in January, 1986, agreed to contribute to such an effort and a plan of action was drawn up by NGO representatives concerning the type of preparatory work required. Apart from commissioning papers on various aspects of social forestry, it was also decided by them to profile various NGOs working either at grass roots level or as professionals. It was further decided to have a series of preparatory meetings to discuss in depth many of the different facets of Social Forestry and get feedback and ideas from people working in the area. The consultation was originally scheduled for May, 1986.

The Government of India was formally approached for clearance and for their participation. In August, 1986 they gave their clearance and designated the National Wasteland Development Board as their representative at the proposed consultation. The consultation was finally held from 8 to 11 September, 1986, at the Ecumenical Christian Centre, Whitefield, Bangalore, Karnataka.

The Preparatory Process

Emerging out of the informal discussions that took place over a period of one year, from mid 85 to mid 86, an NGO advisory committee was constituted of NGO representatives in Delhi who could meet frequently and advise on different aspects of the forthcoming consultation and its preparations (list appended).

Based on discussions with NGO representatives, papers were commissioned on different aspects of Social Forestry including on law, finances, media and awareness, information system, tribals and government policies and programmes.

A profiling of NGOs working in the area of social forestry both at grassroots and as professionals and of Institutions potentially or actually of use to NGOs was also commissioned. It was also decided to have prepared a bibliography of relevant publications and an annotated list of audio-visual material available (List of background papers and documents appended).

Three preparatory meetings of NGO representatives and professionals working in the area were organised to discuss information systems, media and tree awareness programmes. These meetings were aimed at trying to get a clear understanding about these fields insofar as they had a bearing on Social Forestry and to highlight the major issues and problems. These preparatory meetings also helped determine the modalities of feeding into the consultation

information regarding each of these topics. For example, out of the preparatory meetings on information systems emerged the draft of a questionnaire to be used for profiling the information needs of NGOs and for evaluating how far these needs were currently being met. Though it was intended to organise such preparatory meetings for various other aspects of social forestry, paucity of funds made this impossible.

The advisory committee then got on to the task of deciding on the list of invitees for the consultation. Keeping in mind the need for geographical representation, NGOs were selected on the basis of the work that they had done in Social Forestry. It was ensured that representation was given to different approaches and to small community based grassroots groups as well as large professional groups. Government participation was sought from all the concerned departments and similarly representatives of some UN agencies were invited (List of participants appended).

The advisory committee also drew up a tentative work schedule though it was decided that the final work schedule would be determined by the participants themselves at the consultation.

The Consultation

The consultation was attended by 41 NGO representatives, 6 Government representatives, 4 resource persons and 10 UN representatives including the organisers. The discussion at the consultation focused on four topics.

First, there was a detailed discussion regarding the NGO's perception of Social Forestry. A beginning was made on the morning of the first day when three NGO representatives each spoke for half an hour on what they considered to be the required thrust of Social Forestry. The understanding of social forestry as primarily a poverty eradication programme, which involved groups of the most disadvantaged segments of society and gave them control over land which they could use to provide for their basic needs, through appropriate aforestation done in a manner of their choosing, underlay all the plenary and sub- group discussions during the consultation.

Out of these discussions emerged a statement of shared concern (see section I of the recommendations), which reflects the spirit and convictions of the majority of NGOs present.

The second area of discussion was the experiences of many of the NGOs present. The diversity of approaches, reflecting alternative strategies and different ideologies, was striking. Some of the differences also arose because of the different conditions prevailing in different parts of the country. A summary of the questions raised for discussion is given in the introduction to NGOs perceptions (section I of the recommendations).

The third area of discussion was the programmes and policies of the Government. Representatives of the Ministry of Agriculture, the National Wasteland Development Board, the Central Arid Zone Research Institute, the Council for Advancement of People's Action and Rural Technology (CAPART) and of the Government of Karnataka Forest Department gave details of their programmes regarding social forestry.

The fourth area covered the detailed recommendations, addressed to the Government and action plans, addressed to the NGO community itself, which were initially discussed and formulated in sub-groups and later discussed and approved in a plenary session. The final recommendations can be found in the next section.

I. NGOs PERCEPTION OF SOCIAL FORESTRY

Introduction

The NGOs recognize that different perceptions of Social Forestry exist among themselves and are implicit in various Government documents and programmes. In determining a shared perception it appears necessary to consider various questions:

1. What is Social Forestry and who should it benefit?

   Can it be seen:

   - as promoting life support systems for meeting the basic needs of, and providing socio-economic benefits to, marginalized and impoverished people, particularly tribals, women and landless persons?
   - as an extension of farming especially in the form of new and highly profitable activities of commercial tree plantation?
   - as purely a measure for environmental protection?
   - as an add-on to the other developmental measures for income generation?

The essential issue here is whether the NGOs agree with the Government's concept of "Social Forestry" which covers all the above equally but, in practice, mostly promotes commercial plantation.

2. How is Social Forestry to be pursued?

   - through private (farm) forestry?
   - by promoting community organizations and community control of common resources?
   - by forming co-operatives?

At issue here is the type and extent of social control that NGOs would wish for in "Social Forestry" programmes.

3. What roles do NGOs play?

- acting as a community organization: defending rights of the people over land and trees, fully participating with the community in their efforts at Social Forestry?

- acting as a liaison/link agency providing "inputs" to the community, performing marketing or managerial functions?

- acting only as demonstrators?

What should the NGOs identify as a priority role in view of 1 and 2 above?

4. How should NGOs relate to the Government?

- act as a liaison organization between the people and the Government?

- act as community participants defending rights and pressing for re-orientation of Government policies?

- act as partners of the Government?

From a discussion of these points among the participants, a statement of shared concern.

Statement of Shared Concern

1. Degradation of land resources and poverty are inextricably linked. Therefore, restoration of land resources through Social Forestry or other means must directly relate to the eradication of poverty of the population dependent on these resources.

2. The NGOs perception of Social Forestry differs from what is specified in current official documents and implicit in practice. In the view of NGOs, any definition of Social Forestry must necessarily be such that:

a) The major benefits from Social Forestry must accrueto the communities living around the plantations;

b) Produce and benefits must be of the kind that are determined and required by these local people;

c) The strategy and content of such Social Forestry programmes must be determined by the concerned communities after consultation with the Forest Department and experts from NGOs and appropriate institutions. The communities access to information pertinent to the decision making process must be ensured.

d) Beneficiaries must primarily be economically and/or socially disadvantaged groups within local communities.

3. It is recognised that Social Forestry will involve massive reallocation of resources, particularly of land. It is therefore, important that the implementation of the programme occur in a manner in which the allocation of

usufruct, occupancy and ownership rights result in the maximising of socio-economic justice.

4. Social Forestry involves the use of:

i) Village Common lands;
ii) Private lands; and
iii) Government owned lands.

5. Village common lands must be utilized for the sort of production that fulfills the basic sustenance needs of the village population. While cultivating these lands, it must be ensured that there is an equitable distribution of usufruct by creating proper village level organizations. The ownership of common lands must remain vested with the village community.

6. As regards privately owned lands, the importance of land owned by marginal and small farmers is emphasized. This must be utilized optimally for agro-forestry with available technical support. We believe that profit oriented private farm forestry lies outside the purview of Social Forestry.

7. Concerning Government land, the NGOs believe that there should be a shift in policy. Instead of privatization, there should be greater socialization of land resources. Village resources can be augmented by the transfer of revenue, degraded forest and other wasted lands to disadvantaged groups among the village communities.

8. The role of the NGOs is not merely limited to being extension agents for Government programmes. The NGOs must be actively involved in ensuring that the needs of disadvantaged groups of the society are fulfilled through Social Forestry and that such programmes result in greater social control of resources.

Recommendations

1. It was recommended that the Statement of Shared Concern be widely disseminated among NGOs, working in different parts of the country and their mandate obtained for it. Wherever necessary, it should be translated into the local language.

2. On obtaining a sufficiently large mandate, the statement of Shared Concern should be presented to the concerned Government agencies and efforts should be made to seek a proper appreciation of its spirit and content.

II. DISADVANTAGED GROUPS

Introduction

Social Forestry, as perceived by the NGOs, must aim at promoting socio-economic welfare of disadvantaged groups of the society, especially

tribals and women, and at maximising social justice. In practice, Social Forestry programmes often favour the rich and powerful sections of the community.

Various aspects including the choice of species, the programme strategies and the funding packages determine the character of the programme. The Government, along with International Funding Agencies, seems to promote species like the eucalyptus, which neither provide fuel nor fodder, thereby converting the programme into a commercial enterprise and ignoring the survival needs of the local communities. There also exists an insensitivity towards tribals and women and Social Forestry programmes often succeed in making their conditions worse rather than better.

Cases have been noted where under the guise of Social Forestry tribals have been thrown off lands they have cultivated for years, and their crops destroyed, only to be replaced by eucalyptus plantations controlled by the elite of the village. The general trend of encouraging commercial plantations on common and wastelands, mainly to the profit of the rural and urban elite, has further negatively affected the chances of survival of the most disadvantaged segments of society. These programmes, far from providing fuel and fodder to the local communities, have only succeeded in denying the village women their traditional sources of these necessities and forced them to toil harder for less.

Recommendations

1. The group recommends that social control over land and community forests be legally vested with disadvantaged groups among the village communities. In the primary stages, social forestry programmes should ensure employment and resources should be made available for building up the assets of the weaker sections. The State should ensure full protection of the weaker sections of society for handling, processing and marketing of forest products.

2. The role of NGOs should be primarily to promote the organisation of the disadvantaged groups in order to help them defend their rights, and to bridge the information and technical gaps regarding Social Forestry. NGOs should not be mere mediators, managers and executors of Government programmes.

3. NGOs should relate to the Government and international agencies with a clear understanding of past programmes and present policies of these agencies which have primarily gone against the weaker sections and served the commercial interests of the national elite and multi-nationals. It is also recommended that NGOs should be involved at the policy and plan formulation levels and also at the evaluation levels of both NGO and Government programmes and not be mere implementers of Government programmes.

4. In the context of the NGOs being involved in implementing social forestry programmes, the group recommends that an adequate infrastructure should be developed (at least at the district level to start with) to assist in training, transfer of technical know-how, transfer of legal and other information about availability of land and other resources.

III. FINANCE

Introduction

It is recognized that though a large amount of finance has been earmarked by the Government for Social Forestry and for NGOs working in Social Forestry, many groups and communities able and desirous of taking up this work are starved for funds. This is primarily due to the procedural problems involved in getting access to these funds, the liberal allocation of these funds for certain types of forestry activities which cannot be considered as part of Social Forestry and a general insensitivity and ignorance among the bureaucracy who control and allocate these funds, regarding the functioning of NGOs.

Recommendations

1. In view of the procedural difficulties encountered by NGOs, the group recommends the setting up of autonomous, regional or state level bodies to determine the allocations and handle the distribution of funds earmarked for NGOs working in Social Forestry and available with State Governments in relation to poverty alleviation programmes like the National Rural Employment Programme, the Rural Landless Employment Guarantee Scheme, and asset building programmes like the Integrated Rural Development Programme.

2. The component of Social Forestry funding available from international agencies on a bilateral and multilateral basis and meant for NGO activities should be channeled through separate institutions at the Centre and not through State Governments.

3. Social Forestry as perceived by the NGOs, aims at production of goods which are mainly for the sustenance needs of the village communities and only marginally for market sales. Hence, the viability of Social Forestry as an economic return proposition is severely limited. It is therefore recommended that the entire money for Social Forestry come from budgetary allocations and not from financial institutions.

4. NGOs perceive greater allocation of land to local communities for Social Forestry and therefore recommend greater allocation of resources and power to local level bodies through simplified procedures.

5. The possibility of tapping non-government Indian sources other than corporate funds may be examined.

IV. FORESTRY INFORMATION SYSTEM

Introduction

NGOs need a wider range of information on Social Forestry and related subjects. These information needs cover published and reference material, technical issues (including consultancy services), Government programmes and policies, sources and modalities of funding, experiences of other NGOs, and publicity material. While there exist several agencies disseminating information, NGOs feel that their information needs are not adequately met. This is mainly because of the multiplicity of such agencies, the delays in response and the often inappropriate manner of these belated responses.

Recommendations

1. It is recommended that a specialized information service on Social Forestry relevant to NGOs needs be set up to provide information in a form which suits their requirements. The functions of this information service could be:

- to provide on demand specific information and documentation required by NGOs;

- to provide general information regarding Government programmes, modalities or funding, training programmes and other events;

- to interact with regional and local NGO information systems (both informal and institutionalized);

- to interact with NGOs, Governmental agencies and research institutions to collate and disseminate information relevant to NGO needs.

2. The information system should be an autonomous unit which may be located in an existing NGO with suitable infrastructure. The service would be guided by a group of NGO representatives who would constitute its governing body. Given the nature of information needs and the location of much of this information with the Government and its specialized agencies, it is essential for the unit to be set up with the active cooperation of these agencies.

3. The financial requirements for the establishment and functioning of such a project would have to be met mainly through grants from the Government and other agencies.

V. LAWS AND POLICIES

Introduction

The NGOs recognize that there are actually two parallel forest policies. One is the progressive rhetoric found in the National Forest Policy and other official documents, and the other is the one which is put into practice through various laws and rules.

The Indian Forest Act, 1927, enacted for the commercialization and exploitation of forest products and forest dwellers still continues to be the basic legal tool for the management of the forest. This Act does not provide any scope for afforestation. The Forest Conservation Act 1980, puts further restriction on possibilities of afforestation by the people.

Further, there are no statutory laws for wasteland development or Social Forestry. Therefore, often the policy is interpreted by the local level administrators in a manner which does not favour the interests of the poor. The existing tree and land patta rules are also not conducive to Social Forestry.

Most of the rights of the forest dwellers on the land that they have been cultivating since long are not regularized and they are continuously harassed by the authorities. This is made worse by the fact that most degraded or fallow lands are within the Forest Department and there is at present no scope to transfer such lands to landless forest dwellers for the purpose of Social Forestry.

The existing rules concerning life supporting forest products (often called minor forest products), royalty trees, transportation, marketing and harvesting of trees, are not conducive to Social Forestry. The present legal and administrative arrangements particularly encourage subsidized farm forestry, thus helping big landlords to escape the provisions of Land Reforms Act and Land Ceiling Act. Also, as there is no law to protect agricultural land from being converted into farm forestry, there is a tendency, especially by absentee landlords, to convert good agricultural land into farm forests, thereby depriving the local poor from agriculture wage and agricultural products.

Recommendations

1. Three types of roles are envisaged for the NGOs:

   a) Lobbying at the political level for better policies and laws.

   b) Advocacy and campaigning.

   c) Litigating in favour of the underprivileged who have been deprived through official Social Forestry programmes.

2. Existing laws should be suitably amended and new laws framed wherever necessary, to tackle the earlier mentioned problems. For this purpose, a group of NGOs should work together at drafting a model law which reflects the true spirit of Social Forestry.

3. Existing laws and policies concerning Social Forestry from different states in India should be collated and information about them made available to NGOs.

4. A list should be compiled and circulated among NGOs of lawyers and other legal experts who are willing to help communities and NGOs with their legal problems.

5. Efforts should be made to strengthen infrastructure within selected NGOs and within the NGO community in general in order to enable them to better take up legal issues and to involve themselves in litigation, wherever necessary.

VI. MEDIA AND AWARENESS

Introduction

To create the appropriate social environment within which Social Forestry can be taken up meaningfully, the use of various forms of mass media is crucial. Using performing arts, films, slides, posters, wall murals, printed material and games one must reach out to the whole gamut of society. The press, radio, television, local exhibitions and melas must all be utilised to spread the message.

Different types of messages need to be aimed at different categories of audiences. From the proposed beneficiaries of Social Forestry programmes, to whom the media should mainly convey information about their rights, to the Government officials and elected representatives of the people, to whom the message should be that Social Forestry is meant for the poor, every segment of the society needs to be covered.

Recommendations

1. It is recommended that groups working in specific regions should get together to share their experiences and that out of this sharing should emerge material that can be propagated through mass media. This might involve media experts interacting with NGOs and communities to understand the problems and issues involved in Social Forestry programmes at grassroots level. They could then design and produce appropriate material to be used in these areas.

2. It is further recommended that appropriate facilities should be made available at such regional levels where NGOs can interact with media experts and in partnership get developed appropriate material for dissemination.

3. Where NGOs or other appropriate institutions with the requisite skills and sensitivity already exist, these should be strengthened to provide help and support to other NGOs in the region. Where such structures do not already exist, they should be set up. These agencies would act as model agencies for media and awareness support in Social Forestry in their region.

VII. TECHNICAL ISSUES

Introduction

The NGOs recognise that for Social Forestry to be a success there must be a proper understanding of the technical issues involved and effective application of appropriate technology. This necessarily involves the exchange of information and experiences between local communities, NGOs, Forest Departments and scientific institutions. There is need for relevant research of the type that tackles problems faced by NGOs and local communities and which takes into consideration local and traditional technology and suggests solutions that are practical in the specific area. Such research should be undertaken by the concerned scientific institutions and their findings disseminated in an appropriate and usable form to local communities and NGOs. There is an equal need for the wisdom and experience of communities and NGOs to be appreciated and understood by Forest Departments and scientific institutions, and for the latter to seriously consider these in the process of their own work and research.

It is also recognised that the appropriateness of technology is to a great extent determined by the socio-economic milieu it is sought to be introduced in and that this should always be kept in mind while propagating any specific technology for use, especially in rural areas.

Recommendations

1. An interface be evolved, which is ecologically and socially sound, between the traditional systems and methods of land use and the modern systems of land management.

2. A complete inventory of traditional methods, practices and uses of local resources should be done with the help of NGOs, considering their direct interaction with the people and their work.

3. Available modern technology should be critically examined in the context of the existing socio-economic reality. Not only should such technology be modified to suit the local environment but, wherever necessary, suitable social changes should be implemented prior to the introduction of new technology and in preparation of it.

4. Training, based on a package of technology appropriate to the local conditions and agreed upon by the concerned communities, should be organised to accelerate the pace of technically sound Social Forestry.

5. There should be a far more effective system of collecting and disseminating information regarding technical matters. Such a system should include:

a) An appropriate structure for each ecological zone, i.e., separately for the Himalayan region, for the western desert, that could collect relevant technical information from local communities and NGOs, government and scientific bodies, international agencies and other relevant sources and make this available to the local communities and to NGOs in an appropriate and usable form and in local languages.

b) A list of experts in different relevant technical areas who are willing to help local communities and NGOs by responding to their queries and by personal visits, wherever that is necessary and possible. Such lists should be regularly upgraded and an appropriate structure for this needs to be set up.

c) Dissemination of various other types of information including a list of the universities/institutions that have been requested by the Government of India to provide technical support to Social Forestry programmes in different parts of the country.

d) A fund to enable technical experts from one NGO to help out with technical problems that other NGOs might be facing through personal visits.

6. The appropriate structure needed to achieve all this should not be created overnight but should be allowed to evolve through meaningful and continued collaboration between the community, the NGOs and concerned scientific institutions. This needs to be achieved through promoting joint research programmes where NGOs and government and other scientific institution work together with local communities and through this collaborative research develop a better understanding of each other and a structure by which continued collaboration can be ensured.

7. Considering the need for emphasis on Social Forestry in the present system of education and research, the Government should give a mandate to agricultural, forestry and other concerned institutions to reorient their teaching and research programmes and make them more relevant to the requirements of Social Forestry.

8. In conclusion, it is felt that the field experience of the NGO and the research perspectives of an expert can be amalgamated in a fruitful manner so as to make Social Forestry an ecologically viable and a socially sustainable programme.

VIII. TRAINING AND HUMAN RESOURCE DEVELOPMENT

Introduction

It seems impossible for the historically neglected poor of the country to suddenly start handling technically sophisticated aspects of Social Forestry on their own, without any support. But to ensure that the benefits of such programmes go to these very poor people, it is essential that they themselves be involved in the planning and implementation and they themselves make the decisions.

Training, therefore, becomes crucial, and not only in technical areas but in management, social organisation, and in environmental conservation.

Recommendations

1. The NGOs recommend the organisation of well-designed training programmes in Social Forestry, for grass roots implementing agencies, which incorporate the new thrusts of people and community based technology, social action for broad based people's participation and resource mobilization.

2. The NGOs also recommend that apart from integrating awareness, self-confidence, motivation and technology, the training programmes should lead the individual and the community to recognize themselves as an integral part of the bio-sphere and should inculcate a deep respect for the environment as the basic life support system. This aspect of the training should take priority and precedence over the technical aspect of afforestation.

3. The NGOs recommend the establishment of a coordinating agency for training and a clearing house for updating the NGOs information base regarding Government policies and programmes.

4. The NGOs recommend increasing facilities for training on Social Forestry. NGOs with demonstrated capabilities should be encouraged to offer training programmes in each state. Apart from training the required trainers, efforts should also be made at re-orienting the perceptions and practices of Government agencies. Agro climatic regions of the country should be the basis for establishing training infrastructure.

5. In the area of human resource development, the NGOs recommend a dual approach, a specific contextual programme for forest dwellers whose life systems, ethos and economy are intimately connected with the forest and yet another programme for other marginalized sections of non forest dwellers.

6. For the forest dwellers, the programme should be based on a critical understanding of the current crisis of their physical and social alienation from the forests.

7. For the non forest dwellers an effort has to be made to promote a way of life which is in harmony with their natural surroundings.

8. This human resources development effort should direct itself to the revitalization of traditional skills such as forest based cottage industries, which have been destroyed by the modern pursuits of industrialized "economic development".

9. It should also direct itself to the development of attitudes and skills aimed at making local communities self reliant in the planning, execution and evaluation of their own efforts at Social Forestry. It should have, as its objective, the creation of autonomous, decentralized, local communities, which pay attention to the communities knowledge of forestry.

10. The NGOs further recommend that women should play a key role as participants in the human resources development programme because they, as a group, suffer the most through deforestation, and have therefore the greatest stake in the rejuvenation of the forests. The role of women should be given primacy in all efforts of human resources development.

Future Directions

As mentioned at the beginning, this consultation was seen only as a first step towards getting some common understanding among NGOs on what Social Forestry means and some collective action for its proper implementation.

What emerged from this consultation was the resolve to take this effort forward. It was felt by the participants that, first, the essential understanding of Social Forestry as it evolved in this consultation and as it is contained in the statement of shared concern, should be discussed with many more NGO representatives and mandated by many more than 40 NGOs. This exercise could plausibly bring about a unanimity among the NGOs on the question: What is Social Forestry?

Also, a document so extensively mandated could not realistically be ignored by the Government and other agencies involved in Social Forestry programmes and could plausibly lead to a positive change in the concerned policies and programmes.

The second task ahead is to try and persuade the Government and other agencies of the desirability of accepting those specific recommendations that have been addressed by the participants to them.

Finally, there remains the task for NGOs to get together and implement the various recommendations made by the participants to the NGO community,and to initiate all the specifics recommended, like the setting up of an information system, the drafting of model laws, the creation of media and training facilities, and many other.

It is to ensure that the consultation leads on to something further that the participants elected, from among themselves, a steering committee and have charged it with the responsibility of taking this work forward (list of members annexed).

Annexure I

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Annexure II

LIST OF PAPERS AND DOCUMENTS

Title	Author
1. Legal Aspects of Non-Government Organisation's Involvement in Social Forestry	Chhatrapati Singh
2. Tribals and Nature	Madhu Ramnath
3. Forest People: Victims of Ever Changing Yet Unchanging Official Policy	Bharat Dogra
4. Appiko (Chipko) Movement: Lessons of Grassroots Action	Pandurang Hegde
5. Report of Preparatory Meetings	-
6. Forestry Information Systems for NGOs	D. Raghunandan
7. Financing of Afforestation Programmes In India	Pranab Banerji
8. Some Issues Relating to the Use of Forest Resources in Indian Industry	Sumitra Chaudhury & Dinesh Pratap
9. Educational Programmes for Forestry	Kartikeya Sarabhai
10. Professional Profiles in Social Forestry	Rashmi De Roy & Thomas Mathew
11. Profiles of Some "Official Agencies"	D. Raghunandan
12. Voluntary Organisations in Afforestation and Energy Saving Projects	Walter Fernandes
13. Forests and Forestry: Audio Visual Material Available in India	Avenash Datta
14. Annotated Bibliography on Social Forestry	Aditi Sharma
15. Communication Media Aids	Vipul Sangoi
16. Social Forestry and Wasteland Development: Government Policies and Programmes	Thilaka Baskaran & Shekhar Singh

Annexure III

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Annexure IV

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ANNOTATED BIBLIOGRAPHY

ON

SOCIAL FORESTRY

Aditi Sharma

Introduction

This bibliography is mainly an annotated list of books, reports and articles dealing with forestry, for the use of NGOs working in the field of social forestry in India.

For the purpose of the bibliography the libraries consulted were:

1. FOOD AND AGRICULTURE ORGANISATION (FAO)
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2. INDIAN LAW INSTITUTE (ILI)
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7. FOREST RESEARCH INSTITUTE (FRI)
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The books selected deal particularly with social forestry, land use and some legal aspects of forestry. The books were chosen on the basis of their being of special interest and use to NGOs working in the field of social forestry in India.

For the convenience of users the annotated books have been arranged subject wise - Legal Aspects, Land-use, Forest Resources, Social Forestry, People's Forestry Efforts and Forestry (General). The unannotated list has been divided into Articles, Books/Booklets and Reports. All these have been arranged alphabetically according to titles. Wherever possible, the library and the library catalogue number of the books has also been mentioned in brackets.

Table of Contents

Laws and Policies

Common Property and Common Poverty
(India's Forest, Forest Dwellers and the Law)
By Chhatrapati Singh O.U.P. 1986

It deals mainly with the forest dwellers' rights, like civil and economic rights, occupancy rights, compensation; and with rights in common.

Also, in the Appendix some of the relevant laws discussed in the text are included which may be useful to those actively engaged in litigation.

Environmental Policy in India
Edited by Shekhar Singh
Indian Institute of Public Administration,
New Delhi, 1984

Discusses the various policy thrusts in India, especially those dealing with peoples involvement in environmental issues.

Forest Laws - Course of Lectures on Principles of Civil and Criminal Law and Law of Forest
By Baden B.H. Powell Oxford 1893

It is chiefly based on laws in force in British India. Study of law in relation to forest education. Legal classes of forests, legal steps in construction of forest estates, legal protection of forests and forest products in transit, legal organization of forest service.
(Indian Law Institute Library 351.823)

Forest Utilization Contracts on Public Land
FAO Forestry Paper 1
Rome 1977

Legal and economic nature of forest utilisation contracts.

- Nature of forest contracts and its classification, its importance with respect to wood disposal policy
- Long-term utilisation contracts and their legal and management aspects
- Clauses and provisions for long-term contracts
- Forest utilization contracts in humid tropics - experiences, trends and problems to demonstrate the importance of contracts. Appendices.
- Typical examples of long term agreements.

(FAO Library)

Land System in British India
Vol. 1,2,3
By Baden Powell Oxford, 1892

A manual of the land-tenures and of the systems of land revenue administration prevalent in several provinces. Vol. I - Book 1 deals with land-tenures in general and Book 2 deals specifically with Bengal.

Vol. II - Book 3 - The System of village or Mahal settlements.

Vol III - Book 4 - The Raiyatwari and allied systems.
Also has maps.
(Indian Law Institute Library 347.236(54)

People and Forests
(The Forest Bill and a New Forest Policy)
By Desmond D'Abreo Monograph series - 5
Indian Social Institute 1982

Result of a workshop on "A New Forest Policy". Discusses the Forest Bill of 1980 and its impact on forest dwellers; deforestation. Suggests steps towards a constructive forest policy.

Towards a New Forest Policy
- People's rights and environment needs
Edited by - Walter Fernandes
Sharad Kulkarni — Indian Social Institute, 1983

The book is an outcome of a workshop on "A New Forest Policy". The present policy is evaluated. Also has a critique and suggestions for change in the forest policy and forest bill of 1980. A new forest policy that is able to meet the challenge of social forestry is also discussed.

Wasteland Development and the Law
By Chhatrapati Singh,
Thomas Paul and Pawan Prinja — Indian Law Institute, 1986

The report presents legal policy recommendations for wasteland development on the basis of some case studies. Brings out the major basic policy aspects concerning wasteland laws; alternative legal policy options for the development of wastelands in India.

Land and Water

Developing India's Wasted Lands
- A Briefing Paper — Centre for Science and Environment 1986

This document deals with the different kinds of waste-lands, their causes and the consequences of the depleted land. Also discusses the reclamation potential and the role of the government and voluntary agencies. Data on Wastelands.

(National Wastelands Development Board)

Forest and Watershed Development and Conservation in Asia & Pacific
Edited by: Lawrence S. Hamilton — East-West Environment and Policy Institute 1983

Case studies that concern the use of information in planning and operationalizing seven forest development and conservation or watershed rehabilitation projects. Talks about the ravaged Siwaliks in India.
(DOE Library 634.9095) H 18F

Irrigated Forestry in Arid and Semi-arid Lands: A synthesis
By F.B. Armitage — International Development Research Centre IDRC - 234e 1985

Source of information and a general guide for decision makers and managers in the field of irrigated forestry. Experiences of various countries including India. Irrigation systems, implementation, organisation and management.

(FAO Library)

National Seminar on Watershed Management Proceedings (1981)

Forest Research Institute & Colleges, India, 1985

Concepts and practices of Watershed Management. Planning and Implementation - Socio-political considerations, Manpower, Training and Research.

Data on above. (FAO Library)

The Problems of Wastelands in India

By Asha Lakshmi Singh

B.R. Publishing Corpn. Delhi 1985

The importance of wasteland development and nature of ownership of wastelands and their disposal for cultivations. Suggestions for effective utilization of wastelands and the economic aspects. Survey of wastelands in India with special reference to U.P. Origin and formation of saline and alkali lands and waterlogged lands. A review of work done on different aspects of wastelands.

(FRI Library A 914 SIN and SPWD Library 700,17;2)

Proceedings of the Joint FAO/USSR International Symposium on Forest Influences and Watershed Management 1970

FAO - 1970

Watershed Management in developing countries.

Precipitation, vaporization, soil water, hydrologic process, practical management implications, water and air quality, wetland management, erosion and flood control, multiple-use management. Management planning, organisation of education and research.

(FAO Library)

Proceedings of Seminar-cum-Workshop on Afforestation of Usar Wastelands

SPWD and Uttar Pradesh Forest Department 1985

Collection of papers. Reclamation of alkali soil in U.P., Tree plantation on Usar Lands, role of NABARD in reclamation of Usar wastelands, afforestation for the poor, strategy for Usar Development.

Reforestation in Arid Lands
By Fred R. Weber (VITA) - Volunteers in Technical Assistance (Manual Series NO. 37E VS - 1977.

Manual on reforestation in arid lands based on experiences of foresters and local farmers. It gives some current, state-of-the-art examples of forestry programmes in West Africa.

(SPWD Library - 700.322)

The Uncultivated Half of India
By Jeff Romm Ford Foundation New Delhi, June 1979

Discusses sustainable growth in productivity of land; the capability of land (potential); the management units like community forestry; and watershed rehabilitation and administrative and market systems.

(SPWD Library 700:17:3)

Wasteland Development & Environmental Management through Community Forestry
By R.N. Tewari & O.A. Mascarenhas Natraj Publishers Dehra Dun 1983

Case study carried out by the FRI with the help of TELCO - Jamshedpur at a village in Bihar - Khakripara. Aim of project was to plan a community forestry programme. The approach and the results of these projects are listed.

(FRI Library A 182.8:A914)

Wastelands in India - Opportunities and Problems
By V.P. Agarwala SPWD

Causes behind the formation of wastelands; land use policy. Steps for stopping further extension of wastelands and steps for reclamation of wastelands.

Forest Resources

Cold Hearths and Barren Slopes - Wood Fuel Crisis in the Third World
By Bina Aggarwal Allied Publishers (P) Ltd 1986

Comprehensive and detailed analysis of causes and implications of wood fuel energy crisis and efforts made towards, and difficulties encountered in, promoting wood fuel innovations and social forestry and other tree planting schemes.

The Ecological Effects of Eucalyptus

FAO Forestry Paper 59,
Rome 1985

Ecological effects on water cycle, erosion, effects of eucalyptus on nutrient balance. Social considerations.

Data on nutrients - mineral input and outputs (FAO Library)

Eucalyptus for Planting

FAO Forestry Series No. 11
Rome 1979

Eucalypts as plantation trees

Growth characteristics, establishment and management, tree improvement, utilisation, disease, pests, disorder, fire protection, yields, costs of establishment and returns and choice of species.
(FAO Library)

Firewood Farming on Degraded Lands in the Gangetic Plain
By A.N. Chaturvedi U.P. Forest Bulletin No. 50
1985

Deals with need for planning for tree farming on Usar Lands, ravines and on areas with brackish water. Also an assessment of productivity on degraded lands in terms of weight of firewood and the economics of planning. Notes on various species. Some data on above.
(FRI Library A193 CHA)

Forestry in India
By G.S. Padhi (IFS) Indian Book Distributors
Dehra Dun, 1982

The physiography, vegetation and forest types of India. Forest management, problems in forest management, forest education and research.
(SPWD Library 500.11.18)

Forest Resources of Tropical Asia

FAO Rome 1981,
Technical Report 3

A reassessment of the present situation and current evolution of the forest resources of the tropical world within the framework of GEMS.
Forest resources of tropical Asia.
Country briefs. Data on above.
(FAO Library)

Forest Resources in the Asia and Far-East Region

(FAO Rome 1976)

A document which presents estimates of the area of the forests and the volume of their timber growing stock in the countries of Asia and Far-East region. Notes on details of forest types, species, ownership and inventories are provided for a number of countries including India. Data on all the above.

Fuelwood: The Energy Crisis That Won't Go Away

By Erik Eckholm, Gerald Foley, Geoffry Barnard and Lloyd Timberlake

Earthscan Paperback, 1984

Deals with the energy crisis, fuelwood and deforestation; use of wood, farm forestry and community forestry, and ways to make community forestry work; improved cooking stoves and strategies for the future.

Fuelwood Plantations in India

By J.N. Sengupta

FAO Occasional Paper No. 5 Rome 1958

Information paper prepared for Asia-Pacific Forestry Commission.

Physical features of India, fuelwood requirements, past plantation works and their results, proposals, legislation, yield of fuelwood plantations.

(FAO Library)

Fuelwood Supplies in the Developing Countries

FAO Forestry Paper 42, Rome 1983

Gives situation as regards fuelwood in each of the main developing regions and degree of dependence on this fuel. Classifies deficit situation.

Geographical coverage - Africa, Middle East, Asia, Latin America.

Data on all the above for 1980 and prospects for year 2000.

(FAO Library)

Impact on Soils of Fast-Growing Species in Lowland Humid Tropics

FAO Forestry Paper 21, Rome 1980

Assessment of impact of monoculture plantations of fast-growing tree species on soils of lowlands humid tropics by comparing soil conditions under natural forest and those under plantations.

Geographical coverage - Brazil, Surinam, Nigeria, Sierra- Leone, Gambia.

Data on nutrient content of tree samples and soil
Soil distribution and physical and chemical properties of soil.
(FAO Library)

Poplars in Forestry and Land use

FAO, Forestry and Forest
Products studies No.12, 1958

Classification, identification and distribution of poplar types, poplar cultivation, animal pests and diseases, genetics and breeding of poplars.

Characteristics of poplar wood, its exploitation and utilization.
(FAO Library)

Setting Aside the Idea that Eucalyptus Are Always Bad
By J. Davidson.

FAO Working Paper No. 10
Bangladesh 1985

Analysis of arguments against eucalyptus based on scientific literature and experience in Bangladesh.
Conclusions regarding the controversy
(FAO Library)

Symposium Proceedings: Silviculture Management Utilization of Poplars

Organised by - Forest Department
Jammu & Kashmir and Forest
Research Institute, Conifers
Research Centre, Simla
(India,1979)

Compilation of papers on silviculture of poplars, Management of poplars and utilisation of poplars.

Data on all of above.
(FAO Library)

Tropical Forest Resources

FAO Forestry Paper 30,
Rome 1983

Tropical forest resources assessment - a technical report.
Methodology and data involved
Geographical coverage - Tropical America, Africa and Asia
Data on present situation of forest resources.
(FAO Library)

Wood Fuel Surveys

FAO Rome 1983

Provides guidance to those responsible for planning fuelwood related projects in identifying nature of situation they are confronted with and the appropriate approach to assembling information for planning.
(FAO Library)

Social Forestry

Afforestation Programme in Jhabua District

State Planning Board
Government of Madhya Pradesh; 1985

Examines rate of replacement of plants in relation to the major factors, in Jhabua district relevant to afforestation programmes, particularly in relation to selection of sites and management practices followed therein. Also examines the policies and decision-maker's functioning at various levels in the Government.

Development of Social Forestry in India

By Prakash M. Shingi, M.S. Patel and Sanjay Wadwalkar
Oxford and IBH Pub. Co.

Examines important issues in relation to overall strategy of social forestry in India by studying various project documents and analysing the afforestation programmes of Andhra Pradesh, Gujarat, Haryana, Madhya Pradesh, Maharashtra, Tamil Nadu and West Bengal.

Evaluation of Gujarat Social Forestry Programme

GOI/FAO/SIDA - Sardar
Patel Institute of
Economic and Social
Research (India) Jan. 1986

Socio-political and economic background of Gujarat; Social Forestry in Gujarat; evaluation, conclusions, analysis and recommendations.
(FAO Library)

Five Perspectives on Forestry for Rural Development in the Asia-Pacific Region

RAPA Monograph 1986/1
FAO Bangkok, 1986

Compilation of 5 papers presented at a Regional Symposium on Forestry for Rural Development; includes:

"Wasteland and Rural Poor: India" by Dr. Kamla Chowdhury
(FAO Library)

Formulation and Economic Assessment of an Intensive Forestry Project in Eastern Maharashtra

Ford Foundation, New Delhi, 1973

Covers forests in south eastern Chandrapur District of Maharashtra. Resource base, technical description and cost analysis, demand analysis, recapitulation, conclusions and recommendations.

Data on above (FAO Library)

Forestry Extension Organisation

FAO Forestry Paper 66,
Rome, 1986

Broad review of institutional arrangements for extension in forestry. Constraints, opportunities and evaluation of such programmes. Management of the extension services and the organisational structure.

Community involvement.

(FAO Library)

Forestry and Rural Development

FAO Forestry Paper 26,
Rome, 1981

Describes linkages between the forest sub-section and the rural sector as a whole, problems and constraints to be overcome, needs for action to realise the potential of forestry.

(FAO Library)

India and Sri Lanka - Agro-forestry

FAO Rome, 1981

Provides information about farm and community level forestry systems of direct benefit to rural people in India. Agro-forestry for local community development, shifting cultivation, Taungya System, Intercultivation in plantations, social forestry.

Data on above (FAO Library)

Obstacles to Tree Planting in Arid and Semi-arid Lands Comparative Case Studies from India and Kenya

By Jeffery Burley

United Nations University
Japan 1982

Objective of study was to compare and contrast two countries - India and Keyna - with pressing problems of arid zone development. Within

India: forestry policy, strategy, organisation of resources, needs for forest products and services is given. Also, the ways of overcoming the major obstacles to tree planting and the Gujarat Community Forestry project is described.

Data on above

(SPWD Library 700.32;3)

Report of the Committee on Forestry Programmes for Alleviation of Poverty

Government of India, 1984

An overview of the various family beneficiary schemes under implementation in the forestry sector in the country. The historical perspective, dependence of tribals on forests and role of forestry in existing programmes of alleviation of poverty.

Social Forestry Project in Tamil Nadu, India

Forest Department, Tamil Nadu and SIDA Project Appraisal Mission

Background notes on rural Tamil Nadu, central concepts of social forestry components and organization of the project, people's participation and village participation.

Social Forestry in India: Problems and Prospects

Birla Institute of Scientific Research, Economic Research Division 1984

Analysis of Social Forestry in India since Independence. Traces the destruction of forests in the country, leading to the inevitable need of practising forestry outside the trading forest tracts. Examines the efforts made during the Five Year Plans and discusses their results.

Planting techniques, choice of species, maintenance and protection are discussed.

(DOE Library 634, 9,B 535)

Social Forestry Plantations

By K.M. Tiwari and R.V. Singh

Oxford and IBH Pub. Co. Delhi, Bombay, Calcutta, 1984

Discusses the potential for raising plantations of suitable species on land strips along roads, canals, and railway lines. The raising and managing of such plantations - nursery techniques, protection of the plantation and tending to them.

(FRI Library X 264 TIW)

People's Forestry Efforts

Appropriate Technology in Forestry - Report of Consultation on Intermediate Technology in Forestry

FAO Forestry Paper 31,
Rome 1982

Collection of working papers and recommendations adopted by the consultation.

Purpose of consultation was to contribute to development of intermediate local technology and raise its level in rural areas.

Countries represented were Bangladesh, Bhutan, Burma, China, India, Fiji, Korea, Pakistan, Papua New Guniea, Philippines, Malaysia, Singapore, Sri Lanka, Thailand.

Chipko Movement

By Anupam Mishra and Satyendra Tripathi

New Delhi: Gandhi Peace Foundation, 1978

Describes movements of village people, especially women, to protect and manage forest resources.

Conference of Non-Governmental Organisations Working on Environmental Protection

The Environmental Services Group, 1982

Collection of papers presented at the conference - Role and activities of various NGOs. Case study on the Bedthi Hydel Project.

Role of the Government in Environmental protection.

Community Forestry: Some Aspects

UNDO/Environment and Institute East-West Centre, RAPA, FAO Bangkok, 1984

Compilation of papers presented at regional workshop on community forestry.

Requisites and constraints of community forestry, ecological aspects, nitrogen fixation.

(FAO Library)

Environmentally Sound Small-Scale Forestry Projects - Guidelines for Planning

Coordination in Development
Volunteers in Technical
Assistance, 1983

General guidelines for planning environmentally sound, small-scale forestry projects. Major factors that should be considered in planning small-scale forestry projects. The potential of forestry projects to contribute to the quality of life of rural people and to local economies.

Forests and People (A Report on the Himalayas)
By Bharat Dogra 1980

A graphic account of the Chipko movement in Garhwal. It describes how it started initially as a popular protest by local people against indiscriminate felling of forest trees and has expanded into a movement for improving general ecological conditions in Garhwal. Contains much useful information.

Forestry for Local Community Development

FAO Forestry Paper 7,
Rome, 1978

A part of a programme directed towards increasing the contribution forestry makes towards alleviating conditions of the rural poor in developing countries.

Nature and dimension of dependence on forests and forest outputs at local rural community level.

Policies and measures required to implement successful forestry programmes for rural communities.

(FAO Library)

Monitoring and Evaluation of Participatory Forestry Projects
FAO Forestry Paper 60, Rome, 1985

Role of monitoring and evaluation systems.

Experience in developing and operating monitoring and evaluation systems in two participatory forest projects in Malawi and Nepal.

Survey data on above projects.

(FAO Library)

Report of the FAO/SIDA Seminar on Forestry Extension
FAO Rome, 1982

Conclusions and recommendations pertaining to design, organisation and implementation of forestry extension programmes geared to promoting the development of forestry activities concerned with raising living standards of the rural poor.

Problems of the attending countries.

13 countries from Asia and South-West Pacific regions including India were represented.

(FAO Library)

Report on the FAO/SIDA Seminar on Action Oriented Follow-up of 1974 Forestry Education Planning Course

FAO Rome, 1978

Reviews 2 regional surveys of education and training needs for forestry and forest industries, educational planning, forestry for local community development, goals and methods in forestry education.

(FAO Library)

Report of the FAO/SIDA Seminar on Forestry in Rural Community Development

FAO Rome, 1980

Proceedings, conclusions and recommendations of the seminar. Papers presented at Seminar. India:

"Forest-based community development in India - Prospects and problems and role of non-governmental agencies", by B.K. Roy Burman.

"Village Forestry cum Fuelwood. Problems: An Overview", by M.K. Dalvi

(FAO Library)

Role of Social Forestry in village Economy

By K.M. Tiwari

Forest Research Institute and Colleges, Dehra Dun, (India), Social Forestry Series No. 1

Survey of present village economy, Uttar Pradesh Social Forestry Programme Extension Approach, Employment potential and other benefits.

(FAO Library)

Seminar Report on Community Forestry and People's Participation

Ranchi Consortium for Community Forestry, 1980

Compilation of papers presented at the seminar.

Emphasis of seminar was on people's participation to develop, preserve and maintain forests, on forest development as a means to economic upliftment of local community and on cooperation and coordination between governmental and non-governmental organizations to develop community forestry.

Reports on community forestry programmes in various states of India.
(FAO Library)

Social Forestry in India
By K.M. Tiwari — Netaji Pub. Dehra Dun, 1983

Various papers written and lectures delivered at different forums are put together here. Deals with the concept of social forestry, its scope and research needs - Strategies for promoting social forestry and the different social forestry programmes.
Data on all the above. (DOE Library 634.9, T 315)

Social Forestry for Rural Development
By K.M. Tiwari — International Book Distributors,9/3 Rajpur Road, (Ist Floor) Dehra Dun 248 001, 1983

The Social and economic benefits of tree planting in villages. Also the employment potential and scope of income generation. Deals with some of the planning aspects and proposals in a rural economy. Also lists the tree species useful for social forestry.

(FRI Library X2654:X907.1 TIW

Social Forestry and Tribal Development
Indian Environmental Society, 1986

Compilation of papers presented in workshops organised by Indian Environmental Society on "Social Forestry" and "Social Forestry and Tribal Development". For example "Social Forestry - for whom?" by K. Roy and "Forestry and Tribals" by Sharad Kulkarni are some of the papers.
(SPWD Library 500.13;4)

General Forestry

Development of Forestry and Forest Products - Country Profile (India)
Forestry Division, Ministry of Agriculture, Government of India, 1981

Data on forests and forest products to serve as a guide to the forest department and Forest Development Corporations in formulating their programmes for micro level planning and for efficient utilization of forest resources.

(FAO Library)

The Effects of Government Policy in Forest Management in the Himalayan and Siwalik Region of Uttar Pradesh, India

By P.N. Gupta

In: Socio-Economic Effects and Constraints in Tropical Forest Management: The Results of an Enquiry, ed. E.G. Hallsworth pp. 65-72. Chichester: Wiley, 1982

Almost all villagers had certain prescribed rights recorded when Traill demarcated the boundaries of land and villages for revenue administration from 1817-23. These rights vary according to forest classification. In the 1,000 square kilometres of Old Reserve (1877) there are fewer rights to grazing, grass cutting and leaf-plucking. In Class I New Reserves (1911-1917), subject to the recommendations of the Kumaon Grievance Committee of 1921), right holders could cut any tree of any species and lop off branches except for protected species for which the permission of the District Magistrate was required. In Class II New Reserves, right holders could cut trees other than the protected species under certain restrictions. Continuous agitation has led to the expansion of use rights. The problem of administering protected areas lies in the belief that forests are gifts of nature for the unrestricted use of the people.

Environmental Guidelines for Afforestation Projects

United Nations Environment Programme, Nairobi, 1986

Operational guidelines designed to enhance awareness of the environmental constraints and benefits associated with afforestation projects. The objectives of afforestation projects, their positive and negative environmental impacts and existing management techniques are discussed.

Forests and Forestry

By K.P. Sagreiya

National Book Trust, Delhi 1967

Basic facts concerning the forests of the country and the practice of forestry.

Data on the above.

Forestry Activities and Deforestation Problems in Developing Countries

Forest Products Laboratory
U.S. Department of Agriculture, July 1980

An inventory of forest activities being carried out by various agencies responsible for assistance to developing countries.

An assessment of the general ecological impact of forest related activities and an assessment of the present constraints faced in dealing with problems of forestry and deforestation in developing countries. Also a compilation of selected case studies of forestry experiences.

Forestry for the Masses

By R. Chakravarti

Bhopal, Madhya Pradesh: Forest Resources Survey 1976

Nistar is forest produce such as fuelwood, timber, bamboo. In the latter half of the 19th Century it was the general practice to allot to each village an area of forest and wasteland limited to twice the area of the cultivated land in the village. All forests in excess of this were designated as Reserve Forests and brought under the Indian Forest Act. Except in some tribal areas, there were no use rights in the Reserve Forest and the collection of dry firewood and grazing were regulated. Under population pressure, people turned to Reserve Forests to meet their nistar requirements.

The Forest Industry in Uttar Pradesh

By L.C. Sharma

Arya Book Depot, New Delhi 1972

Presents data concerning history of forestry, forest types, their climatic and edaphic distribution, the economics of various forest industries and outlook on future.

History of forest administration and ownership; Role of forests in the state economy. Labour and Labour problems, research, policy and development.

(FAO Library)

India - Country Report of IX World Forestry Congress, 1985

Ministry of Environment and Forests, Government of India

Data on forests and forest organisation and forest policy and management survey of forest resources and logging. Forestry for the people, forestry for energy and forestry research.

India's Environment - Crises and Responses
Edited by - J. Bandyopadhyay
N.D. Jayal
U. Schoettli
Chhatrapati Singh

Natraj Publishers,
Dehra Doon, 1985

A collection of papers presented at seminars on various aspects of the environmental crises. The first part deals with important aspects of the ecological crises specially those related to the soil-water vegetation system. The second part deals with the people's response to India's environmental crises. Also covers policy and legislative response. Various environmental laws are discussed.

Land Evaluation for Forestry

FAO Forestry Paper 48,
Rome 1984

Nature and purposes of land evaluation for forestry and the planning of the evaluation.

Different aspects of land evaluation, i.e., technical, economic, social and environmental.

(FAO Library)

Man and Forests
Edited by - Krishnan Murti Gupta

Desh Bandhu
1979

Proceedings of the seminar organised by Himalaya Seva Sangh.

Includes papers on Social Forestry, forest development and forest policy. States like Kashmir, Meghalaya, Mizoram, Arunachal Pradesh, Himachal Pradesh and Nagaland are covered. The Chipko Movement is also described. Some data on above.

(I.I.P.ALibrary X4X54.4959)

Manual on the Planning of Man-Made Forests
By A.I. Fraser

FAO, Natraj Publ.,
Dehra Dun, India, 1980

Manual for foresters who are concerned with planning and management of specific afforestation projects.

Preparation of project plans, the framework, the implementation, training research and development.

(FAO Library)

The Monitoring and Evaluation of Social Forestry Projects: A Handbook
By Eric Hyman

Rome: FAO, Forthcoming

Since land usually is rented for one year at a time, renters and sharecroppers lack the tenure security necessary for tree farming. Because tenants are not assured of receiving benefits of long maturing crops such as trees, they will not be interested in farm forestry unless they can reach an equitable agreement with their landlords on sharing tree benefits. Conversely, large land owners will avoid farm forestry in favour of short term benefits if they are afraid of land appropriations. Farm forestry is hindered in rural areas of many less developed countries where land registration records or title are absent or conflicting, leading to disputes over ownership and use of land. Traditional landless rights to cut trees for fuelwood, polewood or construction wood on private lands that do not belong to them may reduce the incentives for tree planting. It is more difficult to recruit farm forestry participants in places where the government has nationalized forest lands. This happened in Nepal and in West Bengal in India during the 1950s. To this day, although these laws have been repealed, potential participants are afraid they would lose their land permanently to the Reserve Forest if they establish a stand of trees.

National Development Plan Strategies of Developing Countries in Asia Pacific Region - Forestry Sector

RAPA Monograph No. 11,
FAO Bangkok, 1984

Extracts on forest sector policies and strategies in 15 developing countries of Asia-Pacific Region (India - Extracts from 6th and 7th Five Year Plans)

(FAO Library)

National Security and Forests - INDIA
By Robert Leverty (mimeo)

Consequences of forest destruction within wider context of national security. Various constraints and problems that need to be considered if effective and successful reforestation programmes are to be designed and implemented.

Plantation Forestry in the Tropics
By Julian Evans ELBS, Oxford, 1982

The development of plantation forestry with special emphasis on silviculture. Land, social and economic factors and planning in plantation development and plantation silviculture. Impacts, interactions and integration of plantation forestry.

(FRI Library A228-7 EVA)

Planning Forest Roads and Harvesting Systems

FAO Forestry Paper 2,
Rome, 1977

Trends in development of new logging techniques and their impact on planning of forest operations. Layout of forest roads in relation to mechanized harvesting system, i.e., location, construction, maintenance, costing of labour and machines.

Technical aspects and formulae.

(FAO Library)

A Policy for National Conservation
By H.M. Patel

Collection of papers read by the author at various seminars on national conservation, deals with exploitation of the Himalayas, deforestation, and conservation. Also talks about a national conservation policy.

(I.I.P.A Library Y4X54 P272)

Social Aspects of Farm Forestry in Arid Zones
By L.P. Bharara, and M.L.A. Sen

Annals of Arid Zones 9 (1970)
Pgs: 36-44

This article describes caste and class groupings of those who plant trees. Three-fourths of those owning land plant trees, as opposed to one-fourth who do not own land. Those who own more than 20 hectares of land have the highest planting rate: 85.7 per cent. Irrigation is also significantly associated with the planting of trees. A chart showing the overall number of trees of different species and their survival rates is also presented.

Some Aspects of Forestry in India

Data Centre for National Resources and Environmental Services Group, 1982

Collection of papers like "Approach to a Rational Forest Policy", "Social Forestry Relevant Forestry", "Forest-based Industry and Indian Forests".

Tropical Forest Eco Systems

UNESCO/UNEP/FAO National Resources Research (XIV)

The first part deals with description, functioning and evolution of tropical forest ecosystems covering both disturbed and undisturbed situations. The second part deals with biological behaviour and socio-cultural aspects of the human population in and around tropical forests ecosystems and their patterns of use and management. Also covers

policies of forest management. The third part contains eight regional case studies which describe specific tropical forest ecosystems including India.

(FRI Library XIB UNI)

Tropical Forestry Action Plan

"Committee on Forest Development in the Tropics", FAO, Rome 1985

Action programme proposals in the following five priority areas - (i) forestry in land use; (ii) forest-based industrial development; (iii) fuelwood and energy; (iv) conservation of tropical forest ecosystems; and (v) institutions.

Annex 1 - Examples of Project Profiles

Annex 2 - Summary of Investment Requirements

Geographical coverage - Africa, Asia, Latin America

Data on all Above

(FAO Library)

Tropical Forests: A Call for Action

World Resources Institute
World Bank/UNDP, 1985

Report of an International Task Force

Part I - "The Plan" - The high costs of deforestation, how it can be arrested and an agenda for action.

Part II - "Case studies" - relating to fuelwood and agroforestry, land use on upland watersheds, forest management for industrial uses, conservation of tropical forest ecosystems, institutions for research and training.

Part III - Country Investment Profiles (including India)

(FAO Library)

Tropical Forest and its Environment

By K.A. Longman and J. Jenik

Longman Group Limited, 1974

Describes interaction between forests and environment and analysis of both. Future of tropical forests.

(FAO Library)

Articles

1. **Afforestation Programme**
   By K.K. Somani
   Economic Times, 30 August 1983. p.5 (I.I.P.A. Library)

2. **The Ambidextrous Artisans**
   By Dunnu Roy
   Indian Institute of Public Administration, 1984

3. **Chipko Reaches Karnataka**
   By Sunderlal Bahuguna
   Indian Express, 12 December 1983 p.6

4. **Contributions of Forestry in Garibi Hatao (Remove Poverty) Programme**
   By S.A. Shah
   Khadi Gram udyog, Vol. 20(8), 1974

5. **Development of Forestry in India**
   By M. Balasubramaniam
   Khadi Gram Udyog, July 1968, pp. 688-92

6. **Eco-development Debate: A Critical Review**
   By Ramachandra Guha
   Mimeo, Centre for Studies in Social Science

7. **Environment: Trees Vs. Man**
   By Srilata Swaminadhan
   Indian Institute of Public Administration, 1985

8. **Forestry in British and Post British India: A Historical Analysis**
   By Ramchandra Guha
   Economic and Political Weekely, Vol XVIII, Nos 44, 45 & 46, 1983

9. **Forestry: A Critique of Recent Approaches**
   Business Standard, 7 Dec." 7 December 1982, p. 5

10. **Forest Dwellers as a Focus of Ecological Development**
    By Saraswati Swain
    Commonwealth Human Ecology Council No. 6, Feb. 1983.

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FORESTS & FORESTRY

Directory of Audio-Visuals

By

Avenash Datta

C O N T E N T S

Preface

This is a quick compilation of available audio-visual material on forests/forestry prepared as a background information input to the UNDP sponsored consultation of NGOs in social forestry to be held in Bangalore in September 1986. Given the constraint of time, this compilation cannot claim to be comprehensive or even totally accurate. Much secondary and tertiary information had to be depended upon.

As is clearly evident the bulk of the material is of overseas origin though they can be procured from various indigenous sources. The material is relevant to different target groups including children. There is now a sizable effort on the part of various official and non- official agencies to produce educational and information audio-visual material on aspects of the living natural resources of India. Thus an update on this compilation made a year or so hence should look very different.

I am grateful to my colleagues Sharad Gaur, Rashmi De Roy and Seema Bhatt for help in collecting some of the basic information.

Avenash Datta
Environmental Services Group
World Wildlife Fund-India
August 1986

Introduction

1. Audio-visual material available on loan/purchase from various agencies/organisations has been categorised under three broad subject heads for easy reference.

2. Film: Unless otherwise specified all films are 16 mm sound-motion versions
   VTR: Video tape recording
   AVP: Audio-visual programme (35 mm slides with commentary on audio cassette)

3. A synopsis is provided with the title of each audio-visual in the majority of cases. Details of format, duration, colour, language and source are also indicated. The source code on page indicates the agency/institution from which the audio visual is available.

4. Terms and conditions for the loan/purchase of audio-visual material along with other information on the source is given in pages at the back. The sources are listed alphabetically.

Forest Conservation & Management

TREE FOR EVERY CHILD, A

This film highlights the scheme "A Tree for Every Child".

Film	35 mm	11 Mins	Col	Eng	FD

VRIKSHA DEO BHAV

This film shows the ceremony accompanying the plantation of a sapling.

Film	10 Mins	B&W	Marathi	FRI

HAMARE VAN

This film shows the forest wealth of Uttar Pradesh and forest- based industries in the State. It portrays the importance of forests as a source of recreation and enjoyment. It also shows the afforestation programme undertaken by the State authorities and the success achieved.

Film	19 Mins	B&W	Hindi	FRI

TREES IN DELHI

This film highlights the importance of trees and tree planting activities. It shows the necessity of trees in an urban area like Delhi both for aesthetic and better health conditions.

SOCIAL FORESTRY

This film shows how social forestry is helpful to farmers in general and to cities in particular.

Film	16/35mm	14 Mins	Col	Eng	FD

VANISHING FORESTS

Enumerates the importance of forests and the ill effects that confront us as a result of deforestation. It argues that the solution lies in individual and social action, such as social forestry programmes all over the country.

AVP 91 Slides Col Eng WWF-I

CONSERVATION WITH DEVELOPMENT

Sukhomajri is a village North of Chandigarh along the Himalayan foothills. Deforestation and unchecked cattle grazing have led to soil erosion and silting of rivers. The building of a small dam and the provision of irrigation facilities have led to a regeneration of the ecosystem by giving the villagers a vested interest in the maintenance of the catchment area. The difficulties in ensuring people's participation in eco- development programmes are also explored.

VTR:U-Matic/VHS(PAL) 18 Mins B&W Hindi/Eng CENDIT

HIGH DENSITY AGROFORESTRY

This programme is on the fast growing species, eucalyptus and subabul, which grow at a faster rate because of the struggle for survival principle. Two other valuable species namely teak and bamboo are also dealt with in the latter part of the film which shows how through proper agriculture techniques these two species can also be put at a higher productivity level similar to the fast growing species.

VTR:U-Matic(PAL) 24 Mins Col Eng EMRC

REVEGETATION OF THE DESERT

This film shows in detail all the plants, shrubs, trees, which can be grown in an arid zone and methods of preventing eco- degradation and spread of the desert.

VTR:U-Matic(PAL) 19 Mins Col Eng EMRC

INTEGRATED APPROACH TOWARD PLANT GROWTH

The advantages of the green revolution particularly of the fast growing species - more plant population, fertiliser, water and if need be insecticides. But after a time there comes about a stagnation in the yield. A breakthrough at this stage can be achieved by putting these trees at a higher productivity level using various plant growth regulators. A wasteland can thus be raised to a high productivity level.

VTR:U-Matic(PAL) 21 Mins Col Eng EMRC

GIVE TREES A CHANCE

An interview with Mr. John Seed from the Rain Forest Information Centre, N.S.W. Australia, who answers questions on the preservation of Rain Forests and how the ecological balance is maintained by these forests. He also gives some suggestions on reforestation.

VTR:U-Matic(PAL) 34 Mins Col Eng EMRC

GREEN GLORY

India's vast forest wealth is the subject matter of this film. In the past, forest lands have been denuded by reckless felling of trees. Now, a vigorous effort is underway to conserve our forest wealth. The film shows how conservation and afforestation will increase this national wealth.

Film 16/35 mm 11 Mins B&W Eng FD

WASTELANDS DEVELOPMENT

Tree plantation on a barren plateau of saline soil near the sea- coast and the advantages of prosopis juliflora which can adapt to all types of soil, from rocky terrain to saline soil, even under adverse climatic conditions. This species has a better chance of survival due to a deep penetrating root system, evergreen and built-in-system of self-protection. The film also shows how it can help in greening wastelands, restoring the disturbed ecology of the area besides easing the fuelwood crisis.

VTR:U-Matric(PAL) 15 Mins Col Eng EMRC

WASTELAND DEVELOPMENT

VTR: U-Matic/VHS 20 Mins Col Hindi CREDIT

DEVELOPMENT IN COMMAND AREAS (NORTH)

Documentation of the progress achieved under the Command Areas Programme in North India.

Film 16/35 mm 14 Mins Col Eng FD

GROW MORE & MORE TREES

The film shows the importance of trees and lays stress on the need for social forestry and farm forestry. It highlights activities of the Forest Department including facilities provided to farmers for tree plantation. The film also highlights subabul as green fodder.

Film 16/35 mm 16 Mins Col Eng Fd

VAN VIKAS

Forest plantation techniques in mechanized plantations of Uttar Pradesh: ploughing, harrowing, sowing, weeding, thinning and medical care for forest labour.

Film 10 Mins B&W Hindi FRI

TREE BANK

The film explains how tree planting fits into the Soil Bank Programme of the Department of Agriculture. It illustrates the value of trees in conserving soil and water, providing shelter for wildlife, recreational opportunities for the farm family and as a source of additional farm income. It shows nursery and tree planting techniques, types of crop and land suitable for tree planting under the conservation reserve of the Soil Bank.

Film 11 Mins Col Eng FRI

TREES TO TAME THE WIND

Through a programme of reforestation, vast areas of land in America have been reclaimed from the ravages of wind. Thousands of farms have been made more secure for crops and life. Shelter belts of trees are sown and cultivated to form a protection against the never ceasing wind in the Central States.

Film	9 Mins	B&W	Eng	FRI

COVER THE MOUNTAIN GREEN

This Japanese film depicts the dangers of erosion due to indiscriminate felling of trees and suggests planting of suitable tree cover for happiness and prosperity.

Film	22 Mins	B&W	Japanese	FRI

VAN VARDHAN

This film depicts the importance of forests to Man in rural and urban areas. It suggests that for welfare of society the forest cover should be increased.

Film	11 Mins	B&W	Marathi	FRI

GREAT JUNGLE BUNGLE, THE

Modern machinery can now clear over 1,000 tonnes of trees in just two hours. All over the world Tropical Rain Forests, one of the oldest ecosystems known to man, are disappearing at an alarming rate. This programme highlights the problems facing the Rain Forests in Malaysia as a result of destruction of forests and wildlife.

AVP	40 slides	Col	Eng	WWF-I

FRAGILE MOUNTAIN, THE

Human interference has created imbalances in the ecosystem. In the Nepal Himalayas, deforestation and careless cutting of slopes for cultivation has led to landslides and other disasters. Further degradation can only be prevented by afforestation and the development of alternative sources of energy.

VTR:U-Matic(PAL)	50 Mins	Col	Eng	CENDIT

EMOTIONS OF A FOREST, THE

The fast vanishing forests represent a grave situation in South India. This film documents the remnants of the once rich forests of South Kerala. It shows the problem of deforestation and draws the attention of the viewer to the immediate need for preserving our rich forests.

Film	10 Mins	Col	Eng	FEDD

GREEN GOLD

This film shows the exploitation of our green wealth inherited from our ancestors. It depicts unscientific lumbering processes and devastating forest fires, uncontrolled wind and water erosion. It suggests modern techniques for curbing erosion and conserving fertile soil.

Film	22 Mins	B&W	Eng	FRI

SEEDS OF DESTRUCTION

The film reveals the alarming extent to which man is depleting soil and forest resources on which his survival depends. It recalls the wealth of America's original resources and the tragic waste from devastating forest fires, floods, erosion and over- worked land. Recommends effective conservation.

Film	11 Mins	B&W	Eng	FRI

LOOK TO THE FOREST

"Fire and flood, wasted resources and barren lands are the penalties of forest destruction", warns this film as it describes basic measures to preserve this source of national wealth. Scenes of the wilderness created by stripping the land of protective trees shows the need to halt careless exploitation. Contrasting the slow process of re-seedling with swift modern methods of felling trees, the film urges planned cutting to ensure a continuous yearly crop, an efficient protective service and salvaging of waste.

Film	21 Mins	B&W	Eng	FRI

FATE OF THE FORESTS

It is estimated that the tropical rain forests will disappear within50 years if they continue to be cleared at the present rate. But people must have land to cultivate and supplies of firewood to cook the produce; timber is also a valuable foreign currency earner. The film highlights the problems facing many tropical countries which have to deal with conflicting demands for both the utilisation and preservation of the rain forest ecosystem.

Film	30 Mins	Col	Eng	UK

CONSERVATION OF NATURAL RESOURCES

Wastage of natural resources and how much waste can be prevented: depletion of forests, effects of wind and water erosion, wastage of mineral resources and wasteful killing of wildlife. The film describes steps being planned and carried out to conserve these resources.

Film	11 Mins	B&W	Eng	FRI

CONSERVING OUR SOIL TODAY

Measures adopted by the Government of Maharashtra to assist farmers in the State in the area of land development, and methods for soil and moisture conservation.

Film	15 Mins	B&W	Eng	FRI

SAVE OUR SOIL: (Mitti Pukar)

The film shows India's efforts to control flood waters and prevent soil erosion. The film explains how forests and other vegetation protect the soil and that the indiscriminate cutting of trees, unplanned cultivation on slopes and uncontrolled grazing have helped to rob the country of thousands of acres of land that were once fertile. The havoc thus brought about can be rectified by the concerted will and energy of the nation. Measures such as contour terracing, strip cropping, trenching and afforestation schemes can help restore the balance of nature.

Film	11 Mins	B&W	Eng/Hindi	FRI

PAHARI BHOOMI SANRAKSHAN

Terraced farming as a means of soil conservation is practised in many mountain regions of India. This film takes us to the Nilgiri Hills where hill-folk had been destroying vegetation on the hill side and thus paving the way for soil erosion and barren lands. With the cooperation of the hill people, the Government has introduced programmes to help farmers regain the fertility of their soil.

Film	21 Mins	B&W	Hindi	FRI

OUR FOREST WEALTH

Measures taken by the Government of Maharashtra for forest development. The film also touches on the evils of illicit felling of trees.

Film	11 Mins	B&W	Hindi	FRI

UNTO THE HUNDREDTH GENERATION

The timber land, a national treasure, if not cared for can be transformed into barren wilderness by man's greed and carelessness. The science of efficient modern felling shows how quickly a forest can be regenerated. Selective logging and cutting in patches over a large area are two methods which the film recommends.

Film	10 Mins	B&W	Eng	FRI

TODA MOTSU

The film displays the importance of conservation of natural resources and the benefits derived from these by the teeming millions.

Film	18 Mins	B&W	Japanese	FRI

CONSERVING OUR FORESTS TODAY

Many recent advances in forest conservation are emphasised such as the use of helicopters and plastic hose in fire fighting, new insecticides and chemicals for the control of disease, aerial seeding and mechanical transplanting. The film shows the value of forests for lumber, grazing, water, recreation and how forest lands are being protected for the future.

Film	12 Mins	B&W	Eng	FRI

FOREST CONSERVATION

This important study of forest conservation shows the advantage of selective logging, reforestation and fire prevention. An exciting fire fighting sequence shows how devastating a fire can be.

Film	12 Mins	Col	Eng	FRI

SCIENCE GOES TO THE WOODS

Activities and programmes of the Forest Research Institute and Colleges, Dehra Dun, the premier Institute of forestry research and education in Asia. The film shows the functions and achievements of the different branches which conduct fundamental and applied research in forestry, forest biology and forest products.

Film	30 Mins	Col	Eng	FRI

FOREST RESEARCH INSTITUTE

Highlights some of the important projects undertaken by the Forest Research Institute in collaboration with the United States under the USAID Programme.

Film	11 Mins	B&W	Eng	FRI

WOODLAND HARVEST

This film explains to a layman in pictorial terms the objectives and achievements of British forestry in the fields of timber production, public recreation, wildlife conservation and the landscape. Covering all the seasons throughout the year it illustrates both the beauty of the forest (which provides a livelihood for many thousands of people) and the human efforts in reseedling, planting and nursing the young trees for future harvesting. It underlines the importance of reforestation, as well as emphasising the importance of timber to industry.

Film	26 Mins	Col	Eng	UK

ANOTHER SIDE OF THE FOREST

This film describes the experiments underway to preserve Canada's forests.

Film	20 Mins	Col	Eng	CANADA

DEVELOPMENT WITHOUT DESTRUCTION

This film depicts the need for utilising forest resources on a renewable basis.

Film	16/35mm	17 Mins	Col	Eng	FD

FORESTS OUR FRIENDS

This film outlines the need for the protection of our forest wealth and the role played by the forest rangers in this regard.

Film	16/35mm	11 Mins	Col	Eng	FD

THE FOREST - A MIRACLE

This film shows forests and forestry in Sweden.

Film	29 Mins	Col	Eng	SWEDEN

HEALTH NECKLACE

This film describes the green belt encircling Sverdlovsk, USSR which has been preserved to this day. Parks were established in the forests and lakes were cleansed and their shores turned into beaches.

Film	16/35mm	1 Reel	Col	Eng,Hindi & Punjabi USSR

FOREST WARDENS

Describes British Columbia's vast forest industry and the measures being take to preserve it. The film features interviews with men whose main concern is forest conservation. The need for protecting this valuable heritage against fire is well demonstrated in the activities of the Junior Forest Wardens and the South Vancouver Island Rangers.

Film	30 Mins	B&W	Eng	FRI

TREES ARE A CROP

Demonstrates efficient wood lot management showing how a farmer can make the maximum yearly income from this source. The story of Joe Kelly, who sold his trees to be cut down whole-sale, illustrates danger of a short-sighted policy. Given a second chance on his father's farm, Joe practises selective cutting to keep the woodlot in fine condition while bringing in a good regular income. Gives information about which trees to cut as well as advice on marketing.

Film	18 Mins	B&W	Eng	FRI

FIGHTING FOREST FIRE WITH HAND TOOLS

Demonstrates the use of hand tools in fighting forest fires. The tools are shown in actual use in the hands of a fire fighting crew, who extinguish a fire outbreak. Modern equipment such as walkie-talkies are demonstrated. Methods of counter firing are described. After the fire has been subdued, the crew demonstrate the thoroughness in "mopping up" to prevent a renewed outbreak.

FOREST FIRE PREVENTION

This animated cartoon film explains the hazard of a forest fire and makes an appeal to prevent such fires.

Film	6 Mins	B&W	Eng	FRI

FOREST FIRE SUPPRESSION

Live action, animated skhes and maps are used to provide a detailed demonstration of how a forest fire is brought under control. The film describes various factors such as water supply, road transportation, types of timber stand, and direction of wind, which the fire fighters take into account in planning their attack and in deploying equipment. It shows the actual fighting of a fire, the mopping up operation and the close watch that must follow to safeguard against a renewed outbreak.

Film	15 Mins	B&W	Eng	FRI

SMALL SMOKE AT BLAZE CREEK

Forest fire in mountainous British Columbia, as experienced by the men who must try to quench it from the air with fire-fighting aircraft and at close quarters on the ground. Over half of the fire outbreaks occur through carelessness. The film shows a close and vivid view of the result - a whole mountainside turned into a searing, crackling holocaust until nothing remains but grey, desolate waste - mute reproach to all who travel or work in the forests.

Film	10 Mins	Col	Eng	NEIF

SMOKE JUMPERS

Film	10 Mins	B&W	Eng	NEIF

SMOKEY'S STORY

Dennis Weaver meets a group of young campers in the woods. He sees a boy playing with a book of matches. He narrates the true story of little Smokey, the cub who survived a forest fire. Mr. Weaver succeeds in convincing the boy that matches are not for play.

Film	15 Mins	Col	Eng	NEIF

MAN AGAINST FIRE

Tells the story of Man's fight to save forest resources from destruction by wildfire in the USA. Federal, State, and local cooperative fire control measures protect the nation's water supply, timber, wildlife, recreation areas, and scenic wonders of the forests.

Film	28 Mins	Col	Eng	NEIF

USUTU

Describes the man-made forest operation in Swaziland, Africa, where more than 100,000 acres (40,000 hectares) have been planted with exotic pines in the past 12 years. In 1961 a 100,000-ton-a-year capacity pulp mill started production for export.

Film	35 Mins	Col	Eng	NEIF

WHERE HAVE ALL THE TREES GONE

In Spain, change to the environment due to deforestation hasbeen enormous. The film explains how proper protection and conservation could reverse this destructive process, but asks the question will it happen?

Film	25 Mins	Col	Eng	NEIF

ANOTHER SIDE OF THE FOREST

The Canadian Forest with science on its side - a fascinating look at recent developments that aid and sometimes improve on nature. Turning a Newfoundland bog into woodland, fostering British Columbia seedlings that withstand mechanical planting and inoculating. Ontario elms against the bark beetle, devising ways of controlling fires are some of the experiments being carried out in laboratories and in the field to protect and conserve Canada's vast forest reserves.

Film	20 Mins	Col	Eng	NEIF

FOREST WATCHERS

Nearly one half of Canada is forest but it is estimated that by the end of the century supply of timber may fall short of the demand. The film explains why and describes what is being done to stem possible disaster. The methods range from trekking through the forest on foot to the use of highly sophisticated technology. The data compiled is far from reassuring. Is there time to salvage this fast-dying resource?

MAN OF THE TREES

Richard St. Barbe-Baker brings world attention to the alarming rate at which the world's deserts are expanding because of tree felling and overgrazing. The film includes footage from Baker's 1952 Sahara crossing and ecological surveys, plus other archival material that sketches his early life in the forests of Canada, colonial Kenya and Nigeria, and the struggle for the Redwoods of California. The film also shows his support to the Chipko movement in India and his involvement in New Zealand.

Film	25 Mins	B&W	Eng	NEIF

THE WOOD

Just outside Oxford is a wood of a thousand acres, "Wytham", probably the most well described wood in the world. It was studied in the 1920's to some extent but, just after the last war it was given to the University and since then, ecologists have been working there constantly. One man has been counting the caterpillars on five oak trees for 24 years; another knows the date of hatching, weight at birth and personal life history of

almost every great Tit that can be caught in the wood and the Weasel Lady reckons she has walked 1,000 miles through the wood in three years visiting her trap lines. As this film follows the activities of both the creatures and the ecologists through a year the picture that emerges is not just straight natural history but a very exacting scientific study increasingly relevant to our man-altered and damaged environment.

Film	50 Mins	Col	Eng	NEIF

FORESTS FOREVER

Film	11 Mins	Col	Eng	NEIF

ETERNAL FOREST

Film	15 Mins	Col	Eng	NEIF

GRAZING THE FOREST

Film	11 Mins	Col	Eng	NEIF

Forest Based Industry/Produce

LOGGING TRAINING CENTRE, BATOTE

Activities of the Forest Logging Training Centre set up the Ministry of Food and Agriculture at Batote in the Kashmir valley under the F.A.O. Assistance Programme. The film features the training imparted by Prof. Winklemen, a Swiss Forestry expert, and his colleagues. It shows felling of trees, use of felling implements, debarking, transporting logs over long and short distances, skyline cranes, tractors, conversion of logs in the portable saw mills and finally maintenance of different types of axes and saws used by modern loggers.

Film	18 Mins	Col	Silent	FRI

BETTER TIMBER

Selection and working of trees which are suitable for fuel, pole and structural purposes. The film shows log harvesting and concludes with the transportation of the felled timber.

Film	10 Mins	B&W	Eng	FRI

FROM FOREST TO TIMBER YARD

Materials, tools, operations and processes for timber extraction. This film uses diagrams and photography to explain the structure and growth of hard and soft woods. Photographic shots show how the trees are felled, cut into boards, and the wood seasoned. The film also considers the common types of wood and their suitability for different purposes.

Film	12 Mins	B&W	Eng	FRI

KNOWING WOOD AND THEIR USES

Explains the classification and characteristics of different types of wood to enable a craftsman to select and order the correct type of wood he requires.

Film	18 Mins	B&W	Eng	FRI

LONGER LIFE FOR WOOD

This film shows the average user the economic advantage of using treated wood in places where decay is likely to occur. It shows treatment of wood by commercial treatment plants as well as on farms and in the city.

Film	15 Mins	Col	Eng	FRI

PAPER

This film tells the interesting story of paper making. It shows the chipping of logs, their cooking in acid, preparation and processing of pulp and finally the finished sheet of paper.

Film	9 Mins	B&W	Eng	FRI

PIECE OF WOOD

This film gives glimpses of the United States Forest Produce Laboratory where technicians work to assist the industry to meet the nation's increasing demand for wood, pulp and paper products.

Film	9 Mins	Col	Eng	FRI

PINE RESIN INDUSTRY IN U.P.

Describes the tapping of resin from pine trees in the Kumaon region, collection and carriage from the forests to its final disposal at Turpentine and Resin Factory, Clutterbuckganj in Bareilly.

Film	10 Mins	B&W	Hindi	FRI

RIVER OF WOOD

In words and music this film brings to the screen a great seasonal event, Canada's spruce forests - the log drive. A ballad singer comments musically on this annual spectacle as millions of tons of pulpwood are hurled downstream by agile nimble footed woodmen. Water-borne, the vast aggregation of logs downstream, spurred by dynamic and sharp tipped cart hooks, tossed and twirled by boots of the leaping, men are described in quickening tempo by the picturesque words of song.

Film	17 Mins	B&W	Eng	FRI

STORY OF LAC

Lac is an important subsidiary crop for the hill tribes of Chota Nagpur and also an important export item from India. This film tells the story of scientific cultivation of lac, explaining in detail the proper methods in occupation farming, harvesting and refining in order to obtain a good crop.

Film	18 Mins	B&W	Eng	FRI

TIMBER GETTERS

The film shows modern logging operations being carried out in the forests of Australia and New Zealand.

Film	10 Mins	B&W	Eng	FRI

TREASURE OF FORESTS

This film on the forest products industry of Sweden shows the cutting of logs, manufacture of wood pulp, paper and rayon, which have a world market.

Film	11 Mins	B&W	Eng	FRI

TREE OF WEALTH

The coconut palm provides the entire countryside in South India with a livelihood. No part of the tree or its fruit is wasted. The leaves are used for the roof, the trunk and the log for supports and the fruit yields oil and fodder.

Film	9 Mins	B&W	Hindi	FRI

TREASURE OF FORESTS, THE

This film shows the majestic rain forests of British Columbia and also one of the world's greatest lumbering operations. How giant conifers are felled, transported by water routes to saw mills and cut into lumber or reduced to Canada's greatest export, newsprint.

Film	11 Mins	B&W	Eng	FRI

WOOD ITS ENEMIES AND ITS PROTECTION

Produced by Desowag Chemic - Gasellschafts, M.B.H. Dusseldorf, Germany, by order of the German Ministry of Forestry and Agriculture, the film explains the necessity of timber preservation in the field of forestry and agriculture.

Film	18 Mins	Col	German	FRI

"THE RUSSIAN FOREST"

Film	35mm	2 Reels	Col	Eng/Hindi	USSR

"SCIENCE TO NATIONAL FOREST INDUSTRY"

Film	35 mm	2 Reels	Col	Eng	USSR

JOURNEY OF AFRICA FOR WOOD PRESERVATION

The film tells of a journey in Africa to combat the menace created by wood borers and some of the successful measures for wood preservation which were undertaken.

Film	20 Mins	Col	German	FRI

USE OF THE FORESTS

Shows the great forest areas and the most important and valuable types of trees in America. It also shows the numerous uses of wood and its many products. The irreplaceable value of these forests as areas of recreation and wildlife habitat and also as one of the country's major economic resource.

Film	11 Mins	B&W	Eng	FRI

FORESTRY

Forests are one of the world's most important natural resources. The film explains ways in which forests of the world are being used. Wood provides various products that are used for many purposes: timber for construction, wood pulp for making plywood and paper. Other forests provide such varied products as rubber, cocoa and quinine. The valuable hardwood forests of the middle latitude provide such tropical hardwoods as mahogany. The degree to which good stands of these different forests are still available depends largely on the conservation methods man has learned to employ to preserve this important natural resources.

Film	18 Mins	B&W	Eng	FRI

MALNAD, THE GIFT OF NATURE

Malnad in Mysore State, enjoys a great wealth of physical and economic resources. Nature's bounties in the region include bamboo, sandal wood, teak and rosewood, manganese and iron ore and cash crops like coconut, cashewnut, pepper, coffee and tea. The film shows the role and Malnad in the development of the region through its natural resources.

Film	11 Mins	B&W	Hindi	FRI

VERDANT ISLAND

This is a film report on the Andamans which are rich in natural wealth and must be managed on a sustainable basis.

Film	11 Mins	B&W	Hindi	FRI

STRESS GRADING TIMBER

Film	18 Mins	Col	English	NEIF

Forest Ecology & Education

TREE IS A FRIEND, A

This film shows how destruction of forests or even of a single tree leads to disruption of the ecological harmony.

Film	16/35 mm	15 Mins	Col	FD

NATURE'S HALF ACRE

Though silent, nature is everywhere in action and full of life. This Walt Disney Film shows the mystery of nature which goes unobserved by those who live in it. Within half an acre of land there are thousands of plants and insects which grow and go on maintaining the ecological balance in nature.

Film	33 Mins	Col	Eng	FRI

FOREST GROWS

The film shows the forest as a living, changing, even developing community of trees. Remarkable time-lapse photography reveals a leaf in the process of growing and the importance of chlorophyll. It also shows how a forest area can be shared by different types of trees because of their different characteristics

Film	10 Mins	Col	Eng	FRI

ARTERIES OF LIFE

The importance of water in providing top soil with the necessary moisture and of forests in storing and regulating the flow of water over large areas. The film explains the water cycle and the water table and describes nature's methods for distributing the life-giving water from forested areas through the soil into streams and from there to areas miles away.

Film	11 Mins	B&W	Eng	FRI

WHO LIVES HERE

Shows forests and the fascinating wildlife which lives in them. The film supports the theme of complete harmony in nature.

Film	23 Mins	Col	Silent	FRI

LEARNING ABOUT LEAVES

Shows how leaves are important to plants, animals and men. Compares different kinds of leaves, those of common trees, plants and evergreens. Shows how leaves are related to other plants, the stems and roots, the function of green leaves, making and storing food and changes which take place during the different seasons.

Film	13 Mins	B&W	Eng	FRI

LIFE IN THE FOREST

This film shows the forest as a vast changing community, a place of beauty and abundance, of conflict and hidden dangers to life.

Film	10 Mins	B&W	Eng	FRI

DECIDUOUS FOREST ECOLOGY

In recent years, Swedish forest management has been a topic of more lively and intensive discussion than ever before. Politicians, environmental organizations, and interest groups have plunged into the debate. This two part film was made to provide both the general public and the experts with necessary basic information and to give everyone a chance to learn how the ecology of our forests functions

Film	40 Mins	B&W	Eng	SWEDEN

CONIFEROUS FOREST ECOLOGY

Film	20 Mins	B&W	Eng	SWEDEN

THE FOREST - A MIRACLE

Forests form a very important part of the Swedish landscape covering almost 60% of the total land area. Forestry has long been one of the key sectors of the Swedish economy, accounting for about one-fourth of Sweden's export. Forests provide work and recreation for hundreds of thousands of Swedes, a nature-loving people. The film takes the viewer through woodland and shows what is happening behind the scenes. The word "forest" stands for biological community - an eco-system in which everything that lives there, flora or fauna, is woven into the fine fabric of mutual dependence. Some of the inhabitants of the forest have also allowed themselves to be filmed. The film poses questions about today's forestry methods and may be seen as a contribution to the ongoing discussion in this field.

Film	29 Mins	Col	Eng	SWEDEN

THE NEGLECTED HARVEST

This film describes the current efforts which are being made in Britain and abroad to investigate the many properties of common and exotic tree species, physiology and metabolism, forestry husbandry and harvesting technology.

Film	50 Mins	Col	Eng	UK

CARE AND PRESERVATION OF TREES

This film shows how pruning of dead leaves removal of dead limbs, tapping of gas pocket, treatment of sun scald, bracing of weak limbs and supplementary seedling is done in connection with the care and preservation of trees.

Film	15 Mins	B&W	Eng	FRI

HERITAGE, WE GUARD

Shows how the early exploitation of wildlife for hides and skins and unplanned use of land resulted in denudation and soil erosion. The film also shows the inter-relationship of wildlife and soil conservation and the steps taken to restore and conserve natural resource.

Film	32 Mins	B&W	Eng	FRI

LIVING FOREST, THE

The film brings to the screen the picturesque wildlife sanctuaries of Assam and stresses the need for preservation and protection of the various species before they become extinct.

Film	11 Mins	B&W	Hindi	FRI

FOREST IN THE MUSEUM

This colour film tells us the story of the multiple use of forests by taking us around the "Beware National Forest Exploitation", at Ghost Ranch Museum in New Mexico.

Film	12 Mins	Col	Eng	FRI

NATURE'S PLAN

The film highlights the principles and importance of the natural water cycle, the continuous moving of water from ocean to air, from air to earth and from earth back to the sea.

Film	20 Mins	Col	Eng	FRI

STEMS

Film	8 Mins		Silent	CIET/NCERT

LIFE ON A DEAD TREE

The film shows the active life of insects on a dead tree.

Film	10 Mins	B&W	Eng	FRI

FOREST IS OUR WEALTH

A vast area of land is covered by forests in the USSR which possesses one third of the world's reserves of timber. Forests have been a powerful force which give the Soviet land its beauty and wealth.

Film	16/35 mm	Col	Eng/Hindi	USSR

TREES: GROW THROUGH THE YEARS

Trees are among the oldest and largest of living things. The story of a tree begins with a great number of seeds. Through time-lapse photography, we see the first growth and then watch the development through the years. We see details of growth including the changing appearance of bark and branches, and the processes of healing or decay when branches are removed from a tree.

Film	10 Mins	B&W	Eng	NEIF

THE FIRST FORESTS

The story of the gradual move to land by sea and river plants and how the major problems of adaptation to their new environment was overcome by these water plants.

Film	60 Mins	Col	Eng	NEIF

FORESTS

Extraordinary photography and natural sound effects heighten the impact of this basic teaching film on the variety of forest types in the United States and the principles that determine forest growth.

Film	20 Mins	Col	Eng	NEIF

AN ECOSYSTEM: A STRUGGLE FOR SURVIVAL

People,animals and a forest. These are the principal players in a natural drama that takes place in India's Gir Forests. The survival of each depends on the survival of the forest ecosystem, but each group also makes demands on the forest's resources. Students learn what an ecosystem is and how it responds to change.

Film	22 Mins	Col	Eng	NEIF

ANIMAL HABITATS

Living things are found in many different kinds of places and each is listed for the place or "habitat", in which it lives. By illustrating the specific adaptations of animals to the varying conditions of life in the desert, deciduous forests, prairie, evergreen forest, Arctic tundra, and mountain timberline areas the film serves as a simple introduction to the principles of ecology.

Film	10 Mins	B&W	Eng	NEIF

THE CHANGING FOREST

An introduction to the ecology of a forest area of the types found along the southern fringes of the Laurentian Shield, north of the population centres of Montreal and Ottawa. We see the forest as an integrated community of living things both plant and animal, balanced by conflict as well as harmony. We learn why the maple tree is best able to survive the struggle for supremacy in the Laurentian forest area.

Film	20 Mins	B&W	Eng	NEIF

THE SPRUCE BOG

The conditions under which a spruce bog is formed, with details of the plant types found at successive stages of development from open water to mature spruce forest. Time-lapse photography illustrates the growth and decay of vegetation preceding the appearance of the sphagnum moss that chokes off water to make the floor of the forest.

Film	22 Mins	Col	Eng	NEIF

FOREST UNDER SIEGE

Two million six hundred square kilometres of forest are the feeding grounds of armies of insects. This film shows the devastation, its causes and the many ways in which the Canadian Forestry Service, with the help of the provincial governments, is fighting this attack over a vast area.

Film	25 Mins	Col	Eng	NEIF

LIFE IN A TROPICAL FOREST

This examination of life in the jungle takes us to Cambodia and the upper Amazon but concentrates on the island of Barro Colorado near Panama, where we see a vast eco-system teeming with life: plants, trees, birds, reptiles and insects that use every inch of space and waste no energy.

Film	30 Mins	Col	Eng	NEIF

RAIN FOREST

Costa Rica's moist tropical forests present an astonishing paradox: an ecosystem of immense richness sustained by soil unbelievably impoverished. Here you will see some of the unusual inhabitants of this unique environment: leaf cutting ants, the rare golden toad, the quetzal, a bird sacred to the ancient Maya. Man is exploiting tropical forests at a devastating rate. What will be the consequence of this destruction?

Film	59 Mins	Col	Eng	NEIF

HOW TREES LIVE

Film	15 Mins	B&W	Eng	NEIF

FOREST WORKS FOR US, THE

Film	11 Mins	Col	Eng	NEIF

SMOKE & WEATHER

Film	20 Mins	B&W	Eng	NEIF

FOREST IS HOME TO WILDLIFE

Film	10 Mins	Col	Eng	NEIF

FOREST GUARDS OUR WATER SUPPLY

Film	11 Mins	Col	Eng	NEIF

SERVICE OF TREES

The film describes the usefulness of trees to humanity.

Film	16/35 mm	11 Mins	Col	Engl	FD

AMUCHI SOYARI

Plants and trees are humanity's greatest benefactors. The film narrates how luck disfavoured a man who had a destructive attitude towards trees and nature.

Film	11 Mins	B&W	Marathi	FRI

TALE OF WIND AND TREES

Is the story of trees and a water well to which people and animals from the neighbourhood used to come for water. One day a greedy, rich man had all the trees cut down. The well dried. But soon the children started planting new trees. After a short while they grew into big trees which once again caught the wind and rain, too, fell from the clouds so the well was again filled with water; the flowers blossomed and the people as well as the animals were happy again.

Film	10 Mins	B&W	Music	FRI

TREE IS A LIVING THING, A

Shows what happens in even the smallest cell of the living tree. Students can observe a leaf as it turns sunlight into chlorophyll. The film is in a story form of a young boy and his wise neighbour. Together, they discover from a fallen tree in the boy's backyard, how a tree feeds, breathes and grows.

Film	10 Mins	B&W	Eng	FRI

YOUR FRIEND - THE FORESTS

An animated cartoon film which highlights the importance of forests and their conservation.

Film	7 Mins	Col	Eng	FRI

KATHA KI KAHANI

Tells the story of katha, from the stage the Khair tree falls in the forest to the final stage of katha cakes ready for consumption.

Film	12 Mins	Col	Hindi	FRI

HOW TREES HELP US

Willy sees different kinds of trees and begins to learn the ways in which trees help us by supplying lumber, food and other material for things we need. Willy soon realizes how long it takes for a tree to grow and how it remains valuable throughout its life.

Film	10 Mins	B&W	Eng	FRI

LIFE OF THE PLANTS

Growth of a seed from the time it falls to the ground until it has developed into a full grown plant. The different stages of plant growth are explained.

Film	12 Mins	B&W	Eng	FRI

FOREST PRODUCE

The film depicts falling of trees and their protection for economic purposes. Also, the role of forests in the water cycle and conservation of wildlife.

Film	9 Mins	Col	Eng	FRI

WILDERNESS TRAIL

Portrays an actual pack trip into the Bridger wilderness area in the Bridger National Forest in Wyoming USA. Shows how such areas are preserved in their natural state.

Film	15 Mins	Col	Eng	NEIF

THE WOODS AND THINGS

Moods of the woods. A racing millipede, an obsessive spider, deer in the fern fairyland, squabbling jays, a million ladybugs, and other treasures. For appreciation of wilderness.

Film	11 Mins	Col	Eng	NEIF

DOWN IN THE FOREST

This short film is treated in a mock romantic manner and the amusing commentary is a pleasing feature of this old film favourite. Trees are castles for the koala. The rocks are the fortresses of the wild cat. The cus possum is th white knight of the bushland, but in Australia's forests, the kangaroo is King. Each patch of bushland is a castle courtyard.

Film	5 Mins	B&W	Eng	NEIF

FOREST, THE

Shows that national forests are valuable for water conservation, timber, forage, and recreation. Depicts trail riding and picnicking.

Film	20 Mins	Col	Eng	NEIF

SEASONAL CHANGES IN TREES

Is an excellent introduction to the scientific study of trees, and a rich background for reading and language activities, including supervised field trips and field study of trees. Classification, seasonal aspects, and careful observation are stressed.

Film	10 Mins	B&W	Eng	NEIF

WALK IN THE FOREST, A

Film	28 Mins	Col	Eng	NEIF

FUN IN THE FOREST

Film	11 Mins	Col	Eng	NEIF

CANADA

Canadian High Commission
Shanti Path, Chanakyapuri
New Delhi 110 021 Tel: 619461

Contact: Film Library

Terms and Conditions:

1. Requests for films should reach the High Commission sufficiently in advance of the screening date. Only 16 mm prints are available.

2 Film bookings are subject to change/cancellation without prior notice.

3. A service fee of the Rs 25 (M.O. or D.D) should accompany the film borrower's request each time. Demand draft should be drawn on State Bank of India favouring the Canadian High Commission, New Delhi.

4. Borrowers will be held responsible for any loss/damage.

5. Films should be returned by REGISTERED POST PARCEL only.

6. Although every care will be taken to mail film on the "dispatch date," the High Commission bears no responsibility for any postal delay during transit.

7. An institution can borrow films only once in 6-8 weeks time. Due to limited facilities, films for a maximum duration of one hour can be made available at a time.

8. Loan facilities will be withdrawn if the films are not returned promptly before due date.

9. Return, after the show, a duly completed screening report in duplicate (proforma will be supplied with each film).

Restrictions:

All National Film Board of Canada productions are copyrighted. Unless rights are specifically granted by the National Film Board of Canada, it is forbidden to:

1. Exhibit National Film Board of Canada films or other documents by way of commercial screening;

2. Transmit National Film Board of Canada films or other documents by electronic means such as closed circuit, cable, hertzian waves, 2500 megacycles, or by other electronic means, present or future, of any kind;

3. Reproduce National Film Board of Canada films or other documents in whole or in part, by video tape, video disc, or any other means in existence or hereafter devised, conceived or invented;

4. Use prints borrowed, rented, or purchased for television.

Note: The restrictions listed above apply to the film as a whole or in part, and include the sound track and the visuals within the film.

To Purchase: Inquiries regarding purchase of National Film Board films should be sent to their selling agents in India:

M/s. National Education & Information Films Ltd.
National House, Tulloch Road
Apollo Bunder, Bombay 400 039

CENDIT

Centre for Development of Instructional Technology
D-1 Soami Nagar
New Delhi 110 017
Contact: Director Tel: 6439692/6439693

Terms and Conditions:

On request from CENDIT

CIET/NCERT

Central Film Library
Central Institute of Education Technology
National Council for Educational Research & Training
10-B, Ring Road, Indra Prastha Estate
New Delhi 110 022

Contact: Film Librarian

Conditions for Membership of the Central Film Library:

1. The Department maintains a Central Film Library containing 16 mm films (sound and silent) and 35 mm filmstrips of educational, scientific and cultural value for promoting the maximum use of films and filmstrips as media for visual education. Films are issued on loan only to members. No membership fee, admission fee, rental or subscription fee of any kind is charged.

2. Membership of the central film library is extended to the following types of institutions:
   i. Schools, including technical and teacher training schools, recognized by an appropriate authority;
   ii. Industrial training institutes;
   iii. Colleges, including professional colleges, and institutions of higher education recognized by the State Department of Education or Universities, University Colleges and Teaching;

iv. Departments of Universities;
v. In-service training and extension centres for teachers;
vi. Training institutes imparting training in various vocations and professions.

3. Membership application on the prescribed form should be sponsored by an appropriate sponsoring authority acceptable to this Department. For all schools, colleges, and institutions of higher education which come under the purview of the State Department of Education, the acceptable sponsoring authority is Director of Education/Director of Public Instruction. Institutions which do not come under the control of the State Department of Education may have their applications sponsored by the authority by which the institution is recognized. In the case of Central Schools and Sainik Schools, the membership should be sponsored by the respective Ministries of the Government of India.

The membership application of universities, university colleges and university departments should be sponsored by the Vice-Chancellor or Registrar of the University.

Educational training institutions set up by the State Governments or by the Government of India may have their membership application sponsored by the Department or the Ministry under whose control they function.

4. Films requisitioned by outstation members, i.e. outside the Union Territory of Delhi are sent by the Central Film Library by Registered Parcel post at the expense of the Library. But the expense of returning the films to the Central Film Library shall be borne by the borrowers themselves. In the case of local members, arrangements for collection and return of films will be made by the member institutions.

5. Films/Filmstrips borrowed from the Library will be shown to an audience specified on the requisition form. No fee, either as gate money or in lieu of membership, can be charged for exhibiting the films/filmstrips lent from this library.

6. Films/filmstrips borrowed from the library will not be sublent to any other individual or organization.

7. Films/filmstrips will be handled by a qualified projectionist.

8. Projection equipment in good condition only will be used.

9. If a film is lost or damaged by the borrower, the loss/damage will have to be made good by the borrower, either by meeting the cost of repairs (if separable) or by replacement of the film/paying the replacement cost of the film. As to whether the film is damaged by the member, the degree and extent of damage and the amount of replacement cost (not exceeding the full cost), the decision of the CIET shall be final binding on the member.

10. Every institution is required to sign a form of undertaking accepting the terms and conditions of membership of the Central Film Library. This form should accompany the application for membership.

11. The Council reserves the right to suspend or cancel the membership of any institution/organization for its failure to observe the rules of membership.

12. Every institution, on its enrolment as a member of the Central Film Library, is allotted a code number which should be quoted in all correspondence with this Department.

Terms & Conditions for Loan of Films:

1. For loan of films/filmstrips, application should be made on the prescribed form in duplicate.

2. The application should reach the library at least two weeks before the date of screening.

3. Code number should invariably be mentioned in the application for local films.

4. Separate application should be sent for different dates of screening.

5. The titles and classification numbers of the films/filmstrips requested should be stated clearly on the application forms.

6. Application for loan of films should be signed only by the person/officer authorized to borrow films, with his name, designation and seal of office.

7. Complete postal address at which films are to be sent should be stated clearly in every application, for wrong delivery due to incomplete or wrong address falls under the responsibility of the applicant.

8. Films/filmstrips should be returned promptly after screening. No extension for retaining films will normally be granted except under very special circumstances.

9. Films/filmstrips should be wrapped and packed properly before dispatch.

10. Films/filmstrips should be returned by REGISTERED POST PARCEL only.

11. The films should be returned in their original spools and cans.

12. A screening report, on the form supplied for this purpose should invariably be sent while returning films. The number of screenings made for each film should be correctly stated to enable the Department to maintain an accurate record.

13. If any film/filmstrip is received in a damaged condition by a member, the fact should be brought to the attention of this Department immediately, and the film should not be screened.

Note: Films/filmstrips for screening on a single day are not lent for more than one hour's programme.

EMRC

Educational Media Research Centre
Guru Nanak Bhavan
Gujarat University
Ahmedabad 380 009 Tel: 462409

Contact: Dhiren Avashia, Coordinator

Terms and Conditions:
On request from EMRC

FD

Films Division
Government of India
24 Dr G. Deshmukh Marg
Bombay 400 026

Contact: The Officer-In-Charge of Distribution
Terms and Conditions:

1. Films Division audio visual material is available for theatrical, non-theatrical and TV exhibition.

2. Prints can also be purchased for non-commercial use.

3. For rates and other terms, please contact the Officer-In-Charge of Distribution.

FRI

FRI & Colleges
P.O. New Forest
Dehra Dun
Uttar Pradesh

Contact: The Publicity & Liaison Officer

Terms and Conditions:

1. The FRI Film Library loans films without any charges to educational institutions, scientific bodies, film clubs, State and Central Government Departments and similar organizations or individuals as may be approved by the president, FRI & Colleges at his discretion.

2. All institutions and others who wish to borrow films from this library will have to become members. Applications for membership of the FRI Film Library should be made out on a registration card which is available on request and should be forwarded to the Publicity and Liaison Officer, FRI & Colleges in duplicate.

3. Applications for borrowing the film shall be made in writing at least two weeks in advance. Prescribed application form shall be used by the borrower.

4. The films are not loaned to commercial film libraries or other agencies for screening them at their discretion or for inclusion in the programme which they might choose to book for their clients.

5. The films are intended only for educative and informative screening and in no case should they be screened for entertainment, commercial or advertisement purposes.

6. In case any organization desires to include the films borrowed from the film library for a show for which the professional services of a section-agency are obtained, the film shall be borrowed from the library by the organization itself rather than the section-agency.

7. No admission fee of any kind shall be charged for any shows at which the films loaned by this organization are screened.

8. When borrowing films, borrowers are required to specify:
(i) the type of audience for which the films are required, and (ii) the type of projection equipment to be used.

9. Films should on no account be sent or passed on to other users and should be returned directly to the FRI Film Library.

10. Since the Film Library has only one print in most cases, borrowers should indicate more than one choice while indenting for films. For the same reason, the films shall be returned by the borrowers on the day following the date or period stated in the application unless the borrower obtains permission in advance from the P.L.O., FRI & Colleges to retain the films for further period.

11. Films shall be returned properly spooled up and packed carefully in the same manner in which they are received from the FRI Film Library.

12. Borrowers shall be held responsible for any damage to or loss of the films, including damage due to faulty packing by them. They shall be required to meet the cost of repairs or total replacement, as may be considered necessary by the President, FRI & Colleges, whose decision in the matter would be final and binding on the borrower.

13. When films get damaged the borrower shall return them to the Library immediately with full explanation. Any borrower who receives the films in damaged condition shall return it at once without attempting to use it.

14. The President, FRI & Colleges shall have the powers to cancel the membership of a borrower institution/organization for non-observance of rules or any other reason and his decision in the matter shall be final.

15. Copyright of the film is reserved. The film borrowed shall not be copied, duplicated or altered in any way.

16. All our films, unless otherwise stated, are in 16 mm and have a sound track. They should on no account be allowed to be run on a silent projector as the sound track is liable to be damaged.

17. Films should be handled with great care. Threading should be done carefully, taking care to see that the claws engage properly with sprocket holes. Films should not be allowed to trail on the floor while threading or rewinding as they accumulate dust and deteriorate quickly.

18. All films will either be delivered to an authorized messenger or sent by registered parcel post. The films should be returned immediately after showing by registered parcel post at the borrower's expense. In no case shall the films be sent by train.

19. A screening report on the film show arranged by the borrower shall be sent for records of the F.R.I. Film Library. These reports duly filled in the prescribed proforma should be sent at the time of return of the films. The Film Library shall appreciate it if details about the reactions of the audience and remarks or questions asked are also furnished along with the screening report.

NEIF

National Education & Information Films Ltd.
National House, Tullock Road
Apollo Bunder
Bombay 400 039

Contact: Chief Marketing Executive

Terms & Conditions:

Copyright & Restrictions on Use:

All films are copyright material. Their copying/duplicating/transferring in any way is prohibited. Prints are supplied on print-life basis for customer's own bonafide non-commercial showings to non-paying audiences through normal 16 mm optical projection only. Any other use whatsoever including hiring or telecast by any means is prohibited.

Prices

All prices are net. No discount is allowed. Forwarding charges including packing and freight, sales tax and excise duty as leviable will be extra. Prices are subject to change without notice. All films listed are available for sale. The NEIF film catalogue is available at:

67 Maker Chambers III
Nariman Point
Bombay 400 021

S-13, Green Park Extn. Tel: 665533
New Delhi 110 016
4/1, Madan Street
Calcutta 700 072 Tel: 270623

TNK House, 48 Mount Road
Madra 600 002 Tel: 840984

307 Main Cross, G' nagar
Bangalore 560 009 Tel: 28850

Demthring House
Upper Nongthymmal
Shillong 793 014 Tel: 23777

SWEDEN

Swedish Embassy
Nyaya Marg, Chanakyapuri
New Delhi 110 021 Tel: 694261

Contact: Information Section

Terms & Conditions:

1. The borrower should comply with all relevant Indian Central and State regulations regarding cinematographic performances and obtain a proper screening licence.

2. All requests for films should be made through the requisition letter, obtainable from the Embassy, well in advance, giving date(s) on which the films are required and the appropriate dates on which they can be returned.

3. Only 16 mm sound film projectors should be used.

4. Borrowers are responsible for the proper care and handling of films while in their possession and are requested to report any defects or damage while returning the films. The cost of repairing damaged films is the responsibility of the borrowers.

5. For their own safety, borrowers should check the films before projection and if any damage is discovered, return the films without screening them.

6. All films are sent by REGISTERED PRE-PAID PARCEL and must be returned in the same manner, immediately after screening. Please do not forget that delay in returning the films may lead to disappointment to others. Under no circumstances can a film be transferred from one borrower to another or retained beyond the specified period without the prior instruction or consent of the Embassy.

7. Labels painted on the films should not be erased or removed.

8. A film screening questionnaire, which accompanies the letter regarding the dispatch of films, must be carefully filled in by the borrower and returned with the films. This will enable the Embassy to increase the number of films in the film library and thus serve you better.

UK

British Deputy High Commission
British Council Division
Mittal Tower, 'A' Wing
Nariman Point
Bombay 400 021

Tel: 223560, 223480, 223484
Telex: 011-6991 BCBY IN

Contact: The Film Library of the British Deputy High Commission, British Council Division, is held in its Library at Bombay. The Library consists of 16 mm documentary films and limited video cassettes - both informational and instructional - covering a wide range of scientific, technological, educational and cultural subjects.

Rules and Regulations for Borrowing Films:

Conditions of Loan

The films borrowed from the British Council Division are strictly for non-theatrical and non-commercial showing and must not be re-lent by the borrowing institutions. Admission fees to screenings of these films must on no account be charged. You should ensure possession of a valid "Place Licence" for the venues of screening these films. These films are not censored and can be shown to invited non-paying audiences only.

An amount of Rs. 150 only should be paid in advance to cover the cost of freight handling and dispatch. This will be valid for 12 months from the date of receipt. Requests sent on our F2 form only will be considered.

Borrower's responsibilities

Films are expensive and subject to deterioration and must be handled with care. All the films listed in the catalogue are 16 mm soundtracked films - except a very few which are silent as indicated in the catalogue - and can only be shown on the correct projector equipment and by trained and experienced projectionists. Any defects or damage should be reported to the British Council Division and borrowers must accept responsibility for any damage to films while in their charge and liability to pay for replacement or repairs.

Borrowers must return the films carefully packed and clearly addressed by registered parcel post. Borrowers are required to pay any charges involved in the return of films. The outward postal charges will be covered by the Rs. 150 that is paid in advance.

Application for Loan of Films

Application for the loan of films listed in this catalogue should be made on the prescribed form F2 to The British Council Division. When sending in requests, film borrowers should indicate the title of the film and the number mentioned against it as well as the exact date of screening. Titles of alternative selections and their number should also be given if the required films are not available at that time. Specialized films, i.e., English Language Teaching Films and Medical films are available only for showing to appropriate audiences. Copyright of the films is reserved. The film borrowed must not be copied or altered in any way.

Precaution Against Damage

Damage can be caused to films by:

1. Attempting to use a sound film on a silent projector which has sprocket teeth on both sides and will tear the sound track side of the film which has sprockets on one side only;

2. Not cleaning the projector or gate and film channels before each show;

3. Using a dusty projector gate and film channels before each show;

4. Not engaging teeth in the film sprockets properly;

5. Not allowing sufficient loops above and below the gate when threading;

6. Not stopping the projector immediately if the picture "jumps" or any unsual noise occurs.

USSR

USSR Information Centre
Barakhamba Road
New Delhi 110 001

Contact: Films Section, Cultural Department

Terms and Conditions:

On request from the USSR Information Centre

WWF-1

World Wildlife Fund - India
c/o Godrej & Boyce Mfg Co. P Ltd.
Lalbaug, Parel
Bombay 400 012

Grams: PANDAFUND BOMBAY
Tel: 441361/442927

Contact: Education Officer

Terms and Conditions:

World Wildlife Fund-India maintains a film library and other audio-visual material in its Education Department, at the WWF-I Secretariat in Bombay. These films are circulated among WWF-I regional and branch offices for screening at subscribers' functions and other occasions. These films are available on free loan to Nature Clubs registered with the Nature Clubs of India Programme of WWF-India. Borrowers will have to bear freight charges incurred in transporting films to and from their Nature Clubs. Responsibility in case of damage and/or loss shall be with the borrower, and WWF-India will be entitled to claim reimbursement of repairs or replacement of material.