CHAPTER III
FORESTRY DEVELOPMENT AND SOCIAL FORESTRY PROJECT

INDIAN SCENE:

India's population by the year 2000 is expected to cross the 1000 million mark. The cultivable land per capita which declined from 0.48 hectares to 0.26 hectares between 1951 and 1981 is further expected to decline to 0.14 hectares, about half of what it is today. With the present rate of deforestation there will be hardly any forest cover left by the turn of the century. Already there is an acute shortage of fuelwood and fodder. Even to sustain the present demand, fuelwood production must increase from its present 100 million tonnes a year to about 300 million tonnes and green fodder from about 230 million tonnes to about 780 million tonnes (Kamala Chowdry 1989). Survival of the poor is becoming more precarious. Women are forced to walk miles in search of fuel wood and fodder. India's future depends on her ability to regenerate her degraded forests and other cultivable and non-cultivable land resources.

Slightly more than half the world's forests are in developing countries, where they cover 2.3 billion hectares, or 30 per cent of the land area. In developed countries, forested areas amount to approximately 1.8 billion hectares or about 33 per cent of these countries' land area (R. Persson 1985). Forests constitute 22.7 per cent of India's geographical area. The total geographical area of the country is 32,87,797 sq. km. of which forest area is 7,51,346 sq.km. (The State of Forest Report, 1989). This proportion of forests to total geographical area in the country is lower than the world's average of 29.5 per cent. The percentage of forest area varies from 28.1 per cent in Germany to 32.8 per cent in U.S.A., 33.9
per cent in U.S.S.R., 61.8 per cent in Japan, 70.9 per cent in Finland and 77.2 in Thailand. The minimum forest area necessary to maintain good ecological balance, has been estimated to range between 25 and 33 per cent of the geographical area of a country. India lags behind in this regard. Our per capita land area comes to a meager 0.11 hectares as against a world average of 1.08 hectares (R. Swarup, 1987).

Out of the 31 states and union territories in India, 13 have a forest area whose proportion to their geographical area is less than the national average. Delhi has the lowest percentage of 2.8 followed by Haryana (3.8), Chandigarh (6.2), Rajasthan (9.1), Jammu and Kashmir (9.4) and Gujarat (9.6). Six states have percentage ranging from 13.5 in West Bengal to 20.8 in Maharastra. The percentage of forest area in Tamil Nadu is 17.2 which is quite below the national average. 16 states and union territories recorded a percentage which is above the national average. Andhaman and Nicobar has the highest percentage (86.2) followed by Mizoram (75.5), Manipur (67.8), Assam (61.7), Tripura (60.2) and Nagaland (52.2). Arunachal Pradesh has recorded the highest per capita forest area above the national average 0.11 hectares. 16 states and union territories have a per capita forest area above the national average. Delhi has the lowest per capita forest area estimated at 0.0006 hectares. Tamil Nadu has a per capita forest area 0.05 hectares. Bihar (0.04 hectares), Gujarat (0.05 hectares), Haryana (0.01 hectares), Karnataka (0.10 hectares), Kerala (0.04 hectares), Maharastra (0.10 hectares), Punjab (0.02 hectares), Rajasthan (0.09 hectares), Uttar Pradesh (0.05 hectares), West Bengal (0.02 hectares) are the other regions which have a per capita forest area which is less than the national average (The State of Forest Report 1989).

At the time of the commencement of the first five year plan (1951) the percentage of forest to total geographical area of India stood at 22.7 per cent.
Owing to special emphasis on forestry given during the sixth five year plan a little improvement has been made which on the whole, however, has been insignificant. (R. Swarup 1987).

The large scale destruction of forests in our country is due to several social-economic factors (R. Swarup 1987):

* Rapid growth of population which has encouraged encroachment on forest land for raising food crops, fodder etc.
* Mass poverty and under-employment. Poor people cannot afford to bring any commercial substitute for firewood which remains an indispensible source of energy to them.
* The opportunity cost of fuel wood is zero as they are collected from forests.
* Development projects like hydro-electric projects, irrigation dams, industrial estates, roads, railways etc., According to an estimate, around 4.85 million hectares of forests have been cleared under various developmental projects since independence.
* Over exploitation of forests for industrial raw materials, railway sleepers, building etc. The total requirement of industrial wood is expected to reach about 47 to 64 million cubic meters by the turn of the century.
* Adoption of the practice of shifting cultivation especially in the north-eastern region of the country by the tribals.
* Uncontrolled grazing by the rapidly growing livestock population.
* Destruction of forests due to fire and pilferage.

It is said that progress is becoming synonymous with the assault on Nature. Higher standard of living must be achieved without alienating our people from their heritage and without despoiling Nature of its beauty, freshness and purity essential to our lives (Smt. Indira Gandhi, 1984).
In view of denudation of forests several measures were taken after the independence of the country to promote afforestation. Forestry activities after independence fall into three phases. The first phase was the initial Vanamahotsava Movement which failed to gather momentum. The second phase was the promotion of farm forestry in some of the states in the seventies. The third phase has been the large scale SF activities started during the eighties with massive aid programmes which received a big boost with the constitution of National Wastelands Development Board by the Government of India to afforest 5 million hectares of wasteland annually (D.N. Tewari, 1991).

The Government of India constituted the Central Board of Forestry in 1950 to provide guidelines in the formulation of policies and programmes for the development of forestry. But many of its recommendations, could not be implemented. No serious efforts seem to have been taken to bring 60 per cent of the area in mountainous regions and 33 per cent in the plains under forests as recommended by the Board, (R. Swarup, 1987). The National Forest Policy of 1952 envisaged a concerted move on the part of the Government and other agencies to expand tree lands outside regular forests through a scheme called farm forestry to increase supplies of grazing, small wood for agricultural implements and firewood.

The first plan period (1951-56) was primarily one of forest consolidation as a result of which bulk of the forests in the country became state-owned. In addition, the plan included schemes for afforestation and plantation, improvement of forest communications, preparation of working plans, demarcation of newly acquired areas, improving the growing stock and strengthening forest administration. A number of new Forest Divisions were established for taking over private forests and also for implementing new plans of afforestation in predominantly agricultural districts.
The second plan involved continuation and enlargement of the work taken up during the first plan. Schemes such as establishment of industrial and commercial plantations, rehabilitation of degraded forest, extension of forestry by way of tree planting along roads, canal banks, rail roads and river margins and preservation of wild life were taken up. The various schemes under this plan were aimed at rehabilitation of the denuded areas and degraded forests. Various soil conservation works were initiated. In the final year of the plan (namely 1960-61) SFP evolved in an embryonic stage when farm forestry plantations were developed on a modest scale.

The major feature of the third plan was the significant provision made in it for extending forests. The main objectives of the plan were:

* raising plantation of quick-growing species to meet the growing demand of wood-based industries.
* increasing production of timber and fuelwood and
* undertaking effective soil conservation measures in vulnerable areas of catchments of river valley projects. (Forestry Sector Study - Volume II, Tata Economic Consultancy Service, 1995).

In this plan attention was primarily focussed on farm forestry with a view to meeting the requirements of the rural plantation for fuel, fodder and timber. Farm forestry and extension forestry were taken up on a large scale in the wasteland outside the limits of the reserved forests.

In the fourth plan emphasis was once again on raising plantation of quick growing pulpwood and other commercially valuable series. This strategy was continued in the
fifth plan. At the same time additional fillip was given to SF plantations and fuel plantations.

The principal objectives of the sixth plan as far as the forestry sector is concerned were:

* Extension of forestry activities through massive SFP in areas outside reserve forests with a view to increasing the area under vegetative cover and to maintain ecological balance and reduce environmental pollution and

* Raising plantations of industrial and commercial uses in order to meet the growing demand from pulpwood based industries (Forestry Sector Study Volume II, Tata Economic Consultancy, 1995).

The seventh plan proposals were broadly grouped under four categories. In the first category emphasis was on planned land use adopting sylvicultural principles and producing goods like firewood, fodder and industrial raw materials and development of economic plantations like matchwood and carpentry wood plantations. The second category included proposals for developing plantations whose produce fetch a much higher price by providing for planned land use and by applying more inputs like fertilizer, pesticide etc. The third category of proposals were related to the development of SF in certain categories of land which were beyond the reach of forest developments dispensation. The proposals included in the fourth category related to the management of vast stretch of forest growth purely for environmental amelioration.

The approach of the seventh plan was "Aggressive Forestry" where all components of forests were activated to tap the entire production potential of
the forest resources. In achieving this, the operations were to be continuously subjected to measurement of evaluation and monitoring. Increase in productivity of resource was the basic theme of forest development in this plan.

The National Commission on Agriculture (1976) spelt out the objectives of SF as

* Fuel wood supply to replace cowdung
* Small timber supply
* Fodder supply
* Protection of agricultural fields against winds
* Recreational needs.

The National Forest Policy (1988) recommended the following approach for greening the country:

* Adoption of a massive need-based and time bound programme of afforestation and tree planting, with particular emphasis on fuelwood and fodder development on all degraded and denuded lands in the country.
* Planting trees alongside of roads, railway lines, rivers, streams and canals and on other unutilized lands.
* Raising of green belts in urban/industrial areas as well as in arid tracts.
* Development of village and community lands, including those on foreshores and environs of tanks, not required for other purposes, for the development of tree corps and fodder resources.
* Encouraging of agroforestry for increasing biomass production and tree cover area.

All the forest policy documents make excellent reading but they are of no use unless people are able to translate the recommendations into action. Due
to the large gap between the demand for and supply of forest products like timber, fuel wood and fodder forests have become the target of denudation. In order to revitalize the badly damaged ecosystem the country needs to have at least 100 million hectares under forest cover. For this it must ensure that the 30 odd million hectares of natural forests remaining with us are not exploited beyond their limits of sustainable yields and lands are brought under afforestation (D. Sen et. al., 1993). It can achieve the target by promoting afforestation of forest lands belonging to the people and the community. It is in this context that the National Commission on Agriculture (1976) recommended the adoption of SFP in rural areas.

EVOLUTION OF THE CONCEPT OF SOCIAL FORESTRY (SF) :

In the late seventies, the F.A.O (1978) and the World Bank (1978) gave their support to what was then a rather novel, and in many quarters unacceptable thesis that SF or forestry for local community development needed to receive much more attention and support from the international aid and technical assistance community, as well as from the developing countries themselves. The following facts were highlighted by both the international agencies (People and Trees, 1989):

* The problems that SFP addresses are critical and immense.
* Governments alone cannot accomplish what is needed. Local community initiative and direct voluntary involvement are essential for the success of the SFP.
* High-level political commitment is essential.
* In many areas local financial and technical resources are inadequate and international support is essential.
In 1976 the National Commission on Agriculture, in its review of the forestry sector, suggested two new directions. Firstly a greater stress on production forestry through establishing Forest Development Corporations. Secondly a programme of SF to deal primarily with fuel wood and fodder production for the rural poor. SF was supported by government and considerable funds were allocated for its development especially from the sixth plan onwards. Centrally sponsored schemes were promoted for increasing fuel wood in the fuel wood deficient districts.

The Report of the National Commission on Agriculture (1976) led to some initial SF projects, the most well-known being in Gujarat, West Bengal and Tamil Nadu. Several other SF projects have followed these initial efforts. All states and all but one Union Territories in India now have SF projects, many with external funding from the World Bank or a bilateral donor. At least 17 states, eventually covering 70 per cent of India, have donor-assisted SFP in action. Several donors are involved, in part because SFPs lend themselves to packaging in $20 to $50 million size of loans and grants that development agencies often prefer. The donor-assisted projects include: (Ford Foundation Series, 1984)

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<tr>
<th>State</th>
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<tr>
<td>Andhra Pradesh</td>
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<td>Assam and several NE states</td>
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<td>Bihar</td>
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The All-India SFP is led by the World Bank and appears to be much more result-oriented in structure than efforts to date. Payments would be made for defined successes and less attention would be paid to the means used.

Westoby (1968) was the first to coin the phrase “Social Forestry” to mean producing flow of protection and recreation benefits for the community. Conceptually it deals with (physically) sick lands and (economically) sick people to produce goods to meet the needs of the local community particularly the under-privileged sections. The term ‘social’ in SF should be understood to signify a broader meaning than individual behavioral change alone: it includes collective action, institutional development and the establishment of enduring social structures and value systems that activate and organize individual actors (World Bank Discussion Papers, 1989).

SF is the forestry for the people and by the people. In it people are the direct and not the indirect beneficiaries as in the case of traditional forestry. It cannot develop without full participation of the people. It must act as a
vehicle for disseminating necessary knowledge and techniques to the people so that they can undertake forestry operations by themselves in the future (L.K. Patnaik et. al., 1989).

SF is not merely the programme of planting trees. It is a bundle of activities which generate flow of benefits, direct and indirect, to the community by utilizing either unutilized or ill-utilized land. It is not just a special technology, rather a process of socio-economic change with continuous participation of local community at all levels of programme implementation (D.Sen et. al., 1993). Its meaning cannot, however, be gathered from a description of the range of activities carried under the projects. The novel essence of these projects lies in the word ‘social’ - that is, the project serves local needs through the active involvement of the beneficiaries in the design and implementation of the reforestation efforts and the sharing of forest produce. The many references to SFP explicitly recognize, that these projects are designed to trigger a cultural change in the behaviour of large numbers of people with respect to planting and protection of trees (Cernea, Michael M 1985).

SF is a rural development initiative. It is a part of the wider movement in development thinking away from large-scale projects and a faith in trickle-down effects to an emphasis on people’s participation and local level development (Cathey Nesmith, 1991).

SF scheme can assume a new dimension if it is viewed from the angle of rural forestry, as one of the means to rural upliftment. Experience shows that forestry can neither develop nor survive without the active involvement of the local community. Viewed from this angle, SF may better be named as community
forestry, which emphasises community participation as one of the important ingredients of forest development. If we want to make substantial headway in social forest development, the edge of its emphasis should be on community participation which needs integration with the overall rural development schemes, with a special reference to forest dwellers (N.G. Basu, 1987).

Community forestry is not a special technology, it is a process of socio-economic change that requires continuous participation of the community in planning, implementing and problem solving. It requires a shift from an individualistic endeavour to joint endeavour. Initiation of any community forestry scheme with community participation requires grappling with all the interlocking social, economic and potential problems associated with the rural society. The process of creative community action to create better life for their members, to learn to solve their own problems by community efforts, is the crux of community forestry.

SF products must be so designed that they are related to local needs. In all rural development, the poor are the least visible, the least accessible and the most easily overlooked sector of society and forestry projects aimed at reaching them must be specifically designed to overcome these constraints. Trees for the poor are not a panacea, but evidence suggests that they have a potential for reducing deprivation that has been recognized (Chambers and Leach 1987).

SF production system has a direct bearing on agricultural production. In a tropical country it is feasible to produce more food and more wood by integrating SF with agriculture in the form of three dimensional production system. Under harsh climatic conditions, selected trees in the form of wind-breaks and shelter-belts provide a protective umbrella to agriculture. Trees help to ameliorate the effects of climatic excesses and erosion. In so far as marginal and
submarginal lands are concerned, trees help to improve their productivity. In the uplands, they have an added advantage of protecting the watersheds against floods and deposition of sand and boulders on the fertile agricultural bottom lands (S.A. Shah, 1988).

SF can take many shapes, but there are a number of characteristics which can be found in most SF activities. They are:

* SF is forestry for the people and by the people. In SF people are the direct and not indirect beneficiaries as in the case of traditional forestry.
* It is forestry on a small scale: It is an undertaking by an individual, a household, a group of households, or a community. It is, therefore, limited in scope and scale.
* The poor represented by individuals, households, rural cannot wait for a long time to reap the benefits of the scheme. Therefore, the species have to be fast growing, early maturing and with multipurpose yields.
* Unlike traditional forestry practices, SF may range from mono-cropping with multiple use goals on one end to multiple or integrated cropping systems for a multiplicity of uses on the other.
* In traditional forestry local people only serve as hired workers of government organizations or corporate bodies which plan, implement and manage the forests. In SF, on the other hand the villagers take the prime initiative of planning and managing their projects. Consequently, they bear all the costs, take all the risks but also reap all the benefits for themselves.

To sum up, SF is a small scale land use operation ranging from pure forestry to integrated agro-forestry planned and implemented by individual villagers or communities.
to yield products and services for their primary use and benefits. The land used for SF could be privately owned, community or clan-owned or government controlled; in the last case, the land has to be accessible to farmers (L.K. Patnaik, 1989). The SFP aims at transforming unproductive and under-productive wastelands into abundant reservoirs of solar energy through production of high-yielding and rapid growing biomass with the involvement of society at all levels for its own benefits and development (R. Swarup, 1987).

The main objectives of the SFPs are:

* To increase the supply of fuelwood in rural areas and to provide minor forest products to the local people.
* To provide employment to local labour in the maintenance and felling of new plantations.
* To help economically weaker sections of the local society to raise plantations in holdings which are not suitable to agriculture.
* To gradually shift the maintenance, protection and harvesting of plantations on common land from the forest department to village panchayats.

The objectives of the scheme of SF make it clear that the concept implies rational afforestation and deforestation compatible with economic and social needs and values of concerned communities. Few programmes can have greater socio-economic impact on the rural community as well as on the management of forest resources than those relating to raising trees, grass and fodder in the farmer’s own lands, village common lands and degraded forests close to habitation (Amitabh Tewari, 1983).
The National Commission on Agriculture (1976) defined the scope of SFP as follows:

* Farm forestry: (Agroforestry)
  # Raising rows of trees on bunds or boundaries of the field and individual trees in private agricultural lands.
  # Wind-breaks.

* Extension forestry:
  # Mixed forestry comprising raising of grass and leaf fodder, fruit trees and fuelwood trees on suitable wastelands, panchayat lands and village commons.
  # Shelter-belts.
  # Raising of plantations of different quick-growing species on sides of roads, canal banks and railway lines.
  # Reforestation in degraded forests.
  # Recreation forestry.

All these components have a dominant / substantial social overtone. They are largely for community benefit and are outside the forest areas, with the exception of degraded forests which cannot be managed as commercial forests.

Agroforestry is one of the well-stocked cafeteria of SF. Like most other schemes, it has a long history of practice by farmers, though scientists and resource managers have only recently discovered its possibilities. It represents some combination of people, domestic animals, crops and trees designed to rehabilitate land and to sustain and increase the production of certain desired social benefits. Yet the practices share much with the full array of SF strategies.
for improving the ecosystems and the lives of rural people. The common elements of such strategies are: (W.R. Burch Jr. and J.K. Parker, 1991).

- small scale applications.
- technologies with low capital and energy investment requirements.
- outputs primarily directed to immediate human needs rather than commercial advantage.
- orientation to clients rather than to professionals and their large-scale public and private agencies.
- diversity of products and benefits rather than a mono cultural approach.

Torres (1983) stated that agroforestry can be defined as the deliberate combination of trees with crop plantation or pastures or both in an effort to optimize the use of accessible resources to satisfy the objectives of the producer in a sustainable way. Lundgrean and Raintree (1983) narrated that agroforestry is a collective name for land use systems and technologies where woody perennials (trees, shrubs, palms, bamboos etc.,) are deliberately used on the same land management unit as agricultural crops and or animals, either on the same form of spatial arrangement or on temporal sequence. In agroforestry system there are both ecological and economic interaction between different components.

According to Walt (1989) agroforestry has two dimensions. One is the way of thinking. It means looking for ways to maximize production from land using a mixture of wood fibre, wildlife, recreation and farm crops, both plant and animal to make the biggest buck possible consistent with keeping the land productive. The second dimension echoes the first. It is the actual management of land according to this ethic.
The World Bank is involved in the development of SFP in five states. Of them Gujarat and Uttar Pradesh have completed the first phase of the project. In the words of S.A. Shah (1988) the main reason for the government accepting foreign aid for the project is to ensure that funds are available on sustained basis for implementing the project and that the training facilities available in developed countries are taken advantage of.

At the government level SFP has been included in the New 20-point programme and programmes for rural development and development of drought prone areas. It has now become a firm belief even among foresters that non-governmental organisations (NGOs) have a dynamic role to play in organising and managing tree plantations under SFPs. In the words of S.A. Shah (1988) rural communities whose traditions, structure, attitudes, needs and aspirations differ widely from one area to another have found that responses from government agencies are not up to their expectation. They feel that NGOs working as they do with people and being fully responsive to the specific needs of the region are the competent agencies to deal with such programmes. A few non-governmental organizations such as Village Reconstruction Organization (VRO), Nehru Foundation for Development (NFD) and Action for Food Production (AFPRO) have made a beginning in organizing training programme for the rural population with the help of field functionaries. The youth of the country is involved in tree planting under the programme ‘Youth for Eco Development’ of the National Service Scheme. Schools are encouraged to raise nurseries with the assurance from the forest department that the seedlings would be purchased by it at a reasonable price and also that inputs would be supplied by it to concerned schools.
Trees, if selected judiciously, have the potential to increase soil nutrients by stimulating bacterial activity in the soil. Additionally by restricting the use of cow dung as fuel by rural households fuel wood plantations make this excellent organic manure available to agriculture. As a result the social cost of providing chemical fertilizer is reduced proportionally. In short, it would be no exaggeration to say that SF is capable of protecting and promoting agriculture especially in a tropical country.

SF production has a great impact on the Forest Production System in a country. SF serves as a buffer between the people and the commercial forests. The absence of such a buffer is to an extent instrumental to the destruction of commercial forests in India. The most effective as well as economic way of controlling illicit felling is to augment production as well as to establish a mutually reinforcing relationship between the forest department and the tribals, so that the latter feel as much concerned about the protection of the forest as the former. Tribals should be made partners in the management of forests comprising growing, protection, harvesting and marketing. Unless this is done no power on earth can stem the tide of illicit fellings. Thus, it may be seen that SF is supportive of forest production system. S.A. Shah (1988) maintains that there must be a close linkage between Agricultural Production System and Forest Production System. A low key of agricultural production results in extension of agriculture into forest areas which has happened in several tropical developing countries including India. It is, therefore, in the interest of Forest Production System that agricultural productivity as well as production are maintained at a high level. Additionally, it is feasible to integrate tree-culture with agriculture so as to produce more food and more wood from the same land during the same period.
IMPLEMENTATION OF SOCIAL FORESTRY PROJECT (SFP):

The principal components of SFP in India are village wood lots, strip plantations, farm forestry, agro forestry, backyard planting and urban forestry. The main purpose of establishing village wood lots is to make villages self-sufficient and self reliant in the matter of their bonafide needs of fuelwood, poles bamboos, grass, fodder and other forest products. By doing so women would be spared the drudgery they have to undergo to go out in search of fuelwood. In certain areas they have to trek a distance of about 15 kilometers to gather fuelwood. At present creation of village wood lots is a governmental activity in all the states. There are five types of strip plantations currently being followed in the country. They are:

- Roadside Plantations
- Railside Plantations
- Canal-Bank Plantations
- River Bank Plantations
- Foreshore Plantations

In Gujarat the programme of strip plantations was introduced in 1969. All roadside and canal-banks being state owned lands were notified as protected forests to give legal status to the forest department for their protection. The strip plantations programme on road side and canal-banks is assisted by the World Bank. The species selected differ from region to region depending on different climatic conditions. In order to reduce expenditure on replanting emphasis was shifted to fast growing and coppicing species. Villagers are allowed to take away grasses from the plantations for bonafide use. The Government has provided fifty per cent of the net revenue from the plantations to the concerned taluk panchayat.
West Bengal has exceeded the target in respect of strip plantations. The success of raising strip plantation was largely due to good co-operation from the panchayats. Strip Plantations in West Bengal were taken up in various sites namely roadsides of National and State Highways and other village roads, canal-banks, embankment, river bank and railway side. In contrast with other states the unique feature of strip plantation in West Bengal was that hardly any fencing was provided to it for protection in the initial years of growth. This was appreciated by the World Bank. In Uttar Pradesh maintenance of strip plantations has been a problem. The SF department acquired the strips along roadsides, rail track and canal-banks, planted various species of trees and maintained and protected them for three years. After that it could not concentrate on these strips as new strip plantations were established elsewhere and attention had to be bestowed on them. In Madhya Pradesh the strip plantations were developed by the forest department and were subsequently handed over to panchayats for further maintenance. In Tamil Nadu, Andhra Pradesh and Karnataka foreshore plantations are quite popular.

Farm forestry is one of the easiest components of SF as far as implementation is concerned. According to Sharma (1959) the practice of raising small woods on farm in addition to normal cultivation is called farm forestry. Its aim is to make the farmer self-sufficient in fuel, small timber, grazing facilities, fodder and manure leaf. Farm forests should be so laid out that all indirect benefits like protection of crops against high winds and control over erosion are realised. In the words of Gerald Foley and Geoffrey Bernard (1984) farm forestry is the name given to programmes which promote commercial tree growing by the farmers on their own land. Programmes of this type are restricted to areas in which there is an existing market for wood and other tree products or where one can be created as part of the programme.
To promote farm forestry among various sections of the land-owning population the state of Gujarat adopted the policy of subsidised inputs to all farmers who came forward to adopt the programme. As a result rich farmers availed the facilities of subsidised inputs and took the lead in tree farming. People were supplied seedlings free of cost up to a limit of 5000 in case they registered their name in advance or 2500 in case they had not made any advance registration. However, the limit for free supply of seedlings in both the cases was reduced to 1000. Gradually the responsibility of raising seedlings was transferred to the people under decentralised nursery scheme. The response to this scheme has been satisfactory in the southern region of the state than in the northern region. Initially wider spacing was advocated for farm forestry. Subsequently many farmers adopted high density plantations expecting more profit from them. But these plantations were not successful. (D. Sen et al., 1993)

In West Bengal the progress of farm forestry, both in absolute and relative terms, was quite commendable. The major concentration of farm forestry plantation in the state is found in the laterite forest fringe zone of south western districts. However, there has been a steady increase in farm forestry activity with the establishment of four SF divisions in the non forest areas. The pace of progress has been found to be significant even after the expiry of the project period. Unlike in many other states in West Bengal the chief concern of farm forestry programme has been the alleviation of rural poverty by helping small and marginal farmers and landless communities. With aid from World Bank SF wing has arranged for incentives in the form of cash and kind up to three years from planting. In the south western part of the state owners of contiguous area of fallow land have been grouped together for raising farm forestry. This pattern is popularly known as “Group Farm Forestry.” Although the groups are of an informal character in many
area they have formed committees to take important decisions in management and marketing.

In Maharashtra the farm forestry programme ranks second in the order of importance. Under this programme farmers have been motivated to plant forest species in their fields, field-bunds and boundaries. Block plantation species included eucalyptus, subabul and teak. For field bunds and boundaries a mixture of species like eucalyptus, *acasia nilotica* were recommended.

In Madhya Pradesh farm forestry programme envisaged three types of tree planting activities. Under Tree Cultivation Programme farmers were motivated to grow trees mostly a single species in their less productive and uncultivated land. Cash incentive of Rs.1800 per hectare of planted area was provided to small and marginal farmers while others were given Rs.1200/- per hectare. Under Agro forestry farmers were advised to grow forest species along with normal food and cash crops. Farmers adopting this scheme were paid cash incentives at the rate of Rs.450/- per hectare of planted area in the case of small and marginal farmers and Rs.300/- in the case of other farmers. Under tree planting on bunds and boundaries programme only small farmers were provided cash incentive at the rate of Rs.1/- per tree planted. The minimum and maximum number of trees were fixed at 150 and 250 respectively. Despite such incentives farm forestry programme could attract only big and well-to-do farmers. (D. Sen et.al.,1993)

In Uttar Pradesh the farmers were encouraged to take up tree planting on their fields, farm boundaries and bunds. The tree species were recommended by the SF Department on the basis of the type of soil and existing salinity and alkalinity levels. Fast growing tall species like eucalyptus and subabul were grown mostly on field bunds as wind breaks to protect main sugar cane or banana crop. In the fields species
like popular, eucalyptus and subabul were recommended for block plantation for commercial purposes. The SF Department did not have to shoulder any responsibility except supply of planting material and extension service. Adoption of farm forestry practices was greater in western U.P. compared to the eastern wing because of the availability of quality land and irrigation facilities.

In Orissa farm forestry is an important component of SFP. It is meant to make people self-reliant in the supply of some forest products or supplement the existing supply of such products from other sources. Planting of trees under this programme has taken place on private land, on patches of land not suitable for agriculture in orchards, on homesteads, backyards and along field bund. Vacant unused land owned by organizations/institutions have also been utilized for this purpose. Farm forestry is basically a private enterprise where support in the form of extension is given to tree growers.

Forestry can neither develop nor survive without the active involvement of the local community. Viewed from this angle community forestry is one of the important ingredients of SFP. In Gujarat community forestry has been raised under rain fed and irrigated conditions. Most of the irrigated plantations are located in the southern districts of the state while rain fed plantations are found in mainland of Gujarat and Saurashtra Peninsula. The use of common grazing land is governed by the Panchayat Act. For the purpose of giving boost to panchayat’s initiative in taking up plantation activities the SFP in the state has made a distinction between Managed Village Wood Lots(MVWL) and Self Help Village Wood Lots(SHVWL). In MVWL the forest department raised plantation on panchayat land and transferred it to the panchayat for maintenance and protection. After the final harvest of these plantations the net revenue
was to be shared equally between the forest department and the panchayat. The SHVWLs were established by the village panchayats on their own. The forest department provided seedlings and technical advice free of cost. The entire revenue from these plantations went to the panchayat concerned. Special provisions were made to prioritize the distribution of benefits to various disadvantaged sections of the village community. (D. Sen et al., 1993)

In West Bengal the sites of the community forestry plantations and the species-mix were jointly selected by the forest department and the panchayats. Protection of such plantations was entrusted to the watch and ward staff engaged for this purpose. The funds accumulated were to be spent for the establishment and protection of new plantations to be raised in future. Due to non-availability of community or panchayat land many panchayats planted trees in wastelands by using their funds.

In Maharashtra tree plantation on lands belonging to village community, i.e., the village common land, grazing land and the village forest area has been given special importance in SFP. In the initial years of the project, efforts were taken by extension officials towards motivating people. A village management plan for a period of six years was formulated by the forest department and the concerned village panchayat. The selection of site was done by the forest department in consultation with the village panchayat. People’s involvement in the programme was confined to seeking employment on wages. Maintenance and protection of the plantations was entrusted to watchmen employed on daily wages from among the local people. The amount of fuelwood accruing from community plantations was negligible. The landless villagers and women were allowed to cut grass from the plot.

In Madhya Pradesh the establishment of community plantations called “Panchavan” formed one of the major components of SFP. The plantation was taken up on communal
lands belonging to panchayats. The selection of the site was made by the SF department in consultation with the village panchayat. The species selected included trees which met the fuel, timber, fodder and small timber requirement of the villagers. In the beginning the planting material had to be transported from central/block level nurseries. With the introduction of the Kisan Nursery Programme it was available locally and there was saving in time as well as money. The community plantations remained in the custody of SFD for five years.

In U.P. community forestry was initiated as far back as in 1974-75 much before the country adopted the SFP. This was due to the initiative taken by local village leaders. With the introduction of the SFP the planning and management of the programme was systematized. The sites for community plantations was selected by SFD officials in consultation with the Village Pradhan and members of the concerned village panchayat. For planning and implementation of such programmes a village level forest committee was constituted. The plantation was meant to fulfill the demands of rural people for fuelwood, fodder, small timber and raw material for village industries. People in the concerned village were allowed to collect lopped branches, deadwood, fodder leaf and grass free of cost. On harvest the produce thereof was sold to landless people and marginal and small farmers at 25 per cent of the market prices. (D. Sen et al., 1993)

In all the states which have adopted SFP the project objectives have been formulated keeping in view the requirements of the local people and the need for employment generation. However, West Bengal has chosen income generation with a definite slant towards the weaker sections of the society instead of employment generation. Among the other objectives provision of raw material to village industries in U.P. and environmental conservation in Gujarat and M.P. deserve special attention.
SF being basically a land based activity its implementation depends mainly on the capacity of the state concerned to identify land for undertaking plantation activities. In view of meagre availability of community lands the SF planning in West Bengal, Uttar Pradesh and Gujarat is centred round afforestation in private land or farm forestry. In Madhya Pradesh and Maharashtra large chunks of land belonging to village panchayats have been used for raising community forestry.

Among the three models of SF the performance of farm forestry in the achievement of project targets has been quite commendable. Next to it comes the achievements of strip plantations. However, the performance of community forestry with regard to achievement of targets has been very low in all the states. The reasons for this are the problems in the acquisition of land, poor quality of the land handed over and lack of community involvement in raising, maintaining and protecting such plantations.

SF, being a new development in forest related activities, requires a special organizational infrastructure or a slight modification of the existing infrastructure. While Uttar Pradesh, Madhya Pradesh and Maharashtra have established special directorate of SF, West Bengal and Gujarat have created separate cells in their forest department to undertake S.F. activities. In SFP it is the grass root level functionaries who establish close rapport with the rural population who occupy a place of special importance. In Gujarat and West Bengal regular posts of Forest Extension Workers have been created. In the other states forest guards have been posted on deputation as forest extension workers. Apart from Tamil Nadu, Madhya Pradesh and Maharashtra are the only states which have provided for women forest extension workers to involve women in SF. They are intended to motivate women folk in rural areas about their role in SFP. (D. Sen et al., 1993)
Unlike traditional forestry, SF requires interdepartment coordination at the operation level. All the states excepting West Bengal have established state level coordination committee at the state headquarters. Such committees include officials from different development departments and non-officials including peoples' representatives. The major function of the committee is to identify the SF model appropriate to a region and decide on the mechanism interdepartmental coordination for implementation of the model selected. In West Bengal the forest department in coordination with the panchayats has arrived at a decision regarding implementation of SFPs.

Recognising the importance of motivating people regarding the utility of SFP various states have geared up their extension and publicity efforts. Gujarat, Madhya Pradesh, Maharashtra and Tamil Nadu have produced a variety of extension materials including audio visual aids. West Bengal has tried to promote mass awareness through meetings and convention at village level. In all these states forestry extension centres have been established in different parts of the state. Madhya Pradesh has done commendable work in organising the rural women into Mahila Mandals to take up SF related activities. West Bengal, Madhya Pradesh and Uttar Pradesh have organized Training - cum - Work Shop Camps for imparting orientation to rural men and women in the techniques of tree plantation. (D. Sen et.al.,1993)

SF, in addition to its objectives of ecological restoration and supply of the basic needs of the rural population like fuel, fodder and timber, has also an important role to play in generating additional employment and income to the rural poor. Additional resources for SFP have been provided in several states by linking it with National Rural Employment Programme (NREP), Rural Landless Employment Guarantee Programme (RLEGP), Jawahar Rozgar Yojana etc. Apart from these centrally sponsored programmes various states have launched their own programmes to use SF as a vehicle for improving the lot of the rural poor.
Decentralised Nursery is one such scheme. The National Wasteland Development Board was entrusted with the task of coordinating this scheme which was introduced in 1985-86. The National Dairy Development Board has been assigned an important role in implementing this programme. The scheme is operated in “Operation Flood” areas by the State Milk Federations. The funds for the Scheme have been raised from the budget allocation made for SF, NREP and RLEGP. Five per cent of the funds allowed for NREP and RLEGP has been earmarked for Decentralised Nursery, since 1986-87. This is a state programme with cent per cent central assistance. The main objectives of the scheme are to make nursery stock available everywhere to reduce the cost of transporting the nursery stock to plantation sites and to provide an additional source of income to landless, small and marginal farmers and rural women and youth. In Gujarat Kisan Nurseries involving individual farmers in raising seedlings have been organised with assistance from the forest department. This apart, the DRDA and National Dairy Development Board (NDDB) have organized their own Kisan Nurseries. In West Bengal special preference was given to small and marginal farmers and also to SC and ST population in Kisan Nursery Programme. The beneficiaries have been provided materials free of cost. They are required to contribute their labour in raising the nursery. They are free to sell the seedlings to individual farmers at the rates fixed by SFW. The money earned in this way has been spent by them for repair of houses, purchase of land, purchase of agricultural machinery, children’s education, starting retail business etc. (D Sen et. al., 1993).

In Madhya Pradesh under decentralised nursery scheme necessary technical, financial and material inputs have been provided by SF department and land and labour have been contributed by the beneficiaries of the scheme. The existing Mahila Mandalas which have remained dormant till then have been activated by the women extension
workers for taking up nursery activities. The scheme has proved to be a boon to many down-trodden people. Landless labourers, marginal farmers destitute women and widows have earned between Rs.3000 and Rs.5000 in a season and this has helped them not only to supplement their family income but also to establish regular means of livelihood (D. Sen et al., 1993).

In Uttar Pradesh till 1987-88, 1435 Kisan Nurseries and 2403 school nurseries were established and together they produced 62 million seedlings. Under the Kisan Nursery Programme, the small and marginal farmers willing to establish nurseries were provided with material inputs as well as technical guidance. Each farmer was permitted to produce 2 lakhs seedling which were purchased by the forestry department. In Maharashtra more than 3000 Kisan Nurseries were established till 1987. The rural poor comprising landless workers and small and marginal farmers were given priority in the starting of such nurseries. Necessary technical guidance and material inputs were provided by the SF department. The buy back guarantee scheme of the department benefited many poor people in the state. (D. Sen et al., 1993).

Another scheme which has been introduced under SF is the Mini-kits Distribution Scheme. This scheme has become popular in West Bengal. The distribution of mini-kit consisting of seeds fertilizers pesticides etc., has been found to be very effective in regions where organizational and logistic problem have proved to be a constraint to the expansion of nursery network. However, the scheme could not make any headway except in the coastal region of Midnapur district. Group Farm Forestry is another innovation in promoting SF in West Bengal. During the later half of the 1970, the state government started distributing the wasteland in the southwestern part of the state on patta to the weaker sections of the rural population for farming. With the
advent of SFP in 1980 farmers were encouraged to grow various species of trees in these lands. As farmers owning contiguous areas started planting trees in their holdings a sense of community feeling developed among them. The venture has been termed as Group Farm Forestry. In many areas farmers have grouped together to form committees. These committees take decisions not only on matters relating to the management and protection of the plantation area but also in the marketing of plantation produce.

SF through forest plantations is a special scheme in operation in Gujarat to help, tribals who constitute 18 per cent of the population and who are by and large found to be under poverty line. Job opportunities are scarce in tribal areas. Some of the forests in this area which were once highly dense and rich in quality are badly degraded on account of illicit cutting and encroachment for crop cultivation. It was felt then that direct involvement of the local tribals and other poor sections may be helpful in protecting these forests. Under the scheme known as Social Security Through Forest Plantation employment has been provided to these people in protecting and maintaining forests. Under this programme, a tribal family is given an area of 2 hectares a year for raising plantations. Preference is given to landless among tribals and thereafter to those having marginal holdings in the same village or adjoining village. However, the programme does not appear to have gone well as at the completion of first phase only 600 families could be covered as against the target of 3000 families. (D. Sen et.al., 1993).

With a view to boost tree planting in degraded lands of small and marginal farmers to the SF Wing (SFW), Gujarat introduced a scheme of Rehabilitation of Degraded Farmland (RDFL) during the first phase of the programme. Under this scheme development of tree plantations has been taken up in degraded farm land and
each participating farmer is given Rs.250 per hectare as subsistence allowance per annum from the first year of the plantation till the harvest, provided the survival rate is more than 70 per cent. (D. Sen et.al.,1993)

The Tree Patta Scheme is a centrally sponsored one. Under this scheme the public works department and irrigation department in a state are expected to take up strip plantations in their respective areas, which are not covered under SFP. In the absence of adequate manpower these departments could employ landless people belonging to scheduled castes / scheduled tribes and those below the poverty line. The beneficiaries would not have any right on the land. They are entitled to reap the usufructs from the trees planted. The scheme could not make much headway mainly due to lack of interest on the part of the beneficiaries on the pretext that such tree pattas are far away from their place of residence.

PROGRESS OF SOCIAL FORESTRY IN TAMIL NADU:

Tamil Nadu, which is the southernmost state in India, can legitimately claim to be the pioneer in the afforestation of community lands. In the early 1960's the Government of the state realising that the existing forest coverage in the state was not enough to meet local needs, in particular, the needs of the rural people, initiated a “Farm Forestry” programme which aimed at establishing tree plantations on wastelands throughout the state. In the seventies in pursuance of the recommendations of the National Commission on Agriculture the state government implemented other programmes of tree plantations known as “Extension Forestry”, “Mixed Plantations” and “Village Forests” to develop forests on available land and provide employment and income to local communities and individual farmers. In the twenty years preceding 1981 about 1,33,000 hectares of land were planted with trees under these programmes by the
forest department most of them on the fore shores of the irrigation tanks. (Mike Arnold et. al., 1987).

Recognizing the need to intensify SF in the state, a SFP was launched in 1981 with SIDA assistance. The project was planned for a period of five years with an outlay of Rs.450 million. A SIDA support of 70 per cent of total project costs was made available to the state government. The first phase was subsequently extended by one year to April 1987 and later was extended to 1988 in order to provide the time and resources needed to prepare a planned second five year phase. (Mike Arnold et. al., 1987)

The original objectives of the project were:

* To increase supplies of fuelwood in rural areas and to provide poles, bamboo, small timber, fodder, grass, fruit, oil seeds and other minor forest produce.

* To establish where possible plantations which on maturation, will satisfy on a long term basis the wood requirements of the villagers, while generating employment in rural areas in establishing, maintaining and felling of plantations.

* To gradually shift responsibility for establishment, maintenance, protection and harvesting of woodland raised outside forest lands from the Tamil Nadu Forest Department to village panchayats.

* To help economically weaker sections to raise plantations in their holdings which are unsuitable for agriculture.
These objectives were then expressed as the following goals:

- Creation of a land-based asset (forests) to meet the rural requirements of fuelwood, small timber, fodder, minor forest products such as fruits etc.
- Ensuring equitable distribution of the products on an even and sustained basis.
- Utilization of non-traditional lands such as tank fore shores, poromboke lands, roadside and canal side lands for creating such forest assets and for conserving the environment.
- Securing the full and equal participation of the rural communities including the women and the children in activities.
- Providing employment opportunities, particularly to the bakcward classes, the landless and the rural poor.

The project thus had a strong equity focus, with defined target groups - the backward classes, the landless, women and children and the rural poor. This last category encompassed small and marginal farmers as defined in the country’s rural development programmes. (Mike Arnold et. al., 1987)

The Project’s objectives were operationalized into the following targets.

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>TARGET (1988)</th>
</tr>
</thead>
<tbody>
<tr>
<td># Tree Cultivation Incentive</td>
<td>Distribution of 12.6 million Seedlings to 1,00,000 families (20,000 families/year)</td>
</tr>
<tr>
<td># Tree Cultivation Extension</td>
<td>Distribution at cost price of 37.5 millions seedlings to private farmers.</td>
</tr>
<tr>
<td># Programme (TCEP)</td>
<td></td>
</tr>
<tr>
<td># Plantations on Tank shores</td>
<td>1,32,000 hectares (26,000 hec./year)</td>
</tr>
<tr>
<td># Plantation on Poromboke Plains</td>
<td>14,700 hectares (2940 hec./year)</td>
</tr>
<tr>
<td># Plantations on Poromboke Hills</td>
<td>24,500 hectares (4900 hec./year)</td>
</tr>
<tr>
<td># Strip Plantations</td>
<td>6075 Km (roadside,canal side etc.,)</td>
</tr>
<tr>
<td># Fodder Plantations</td>
<td>5250 hectares (1050 hec./year)</td>
</tr>
</tbody>
</table>

To implement the project, a SF Wing (SFW) with an Additional Chief Conservator of Forest as its head was established in the Tamil Nadu Forest Department. The project was managed through four circles divided into 17 divisions. Each division was divided into five ranges and each range in its turn into four sections. These territorial divisions were supported by research, training and publicity activities. At the local level SF Wing staff were to cooperate with Panchayat Unions and Village Panchayats. Village SF Workers (VSFW) were appointed as extension workers in the villages and to serve as a link between the villagers and the forest department. It was envisaged that ultimately the villagers themselves would take over the responsibility for the planting, maintaining and harvesting of plantations on community land and control the benefits accruing there from. This was to take place through the establishment of Village SF committees which were grouped into Panchayat Union SF Committees, District SF Committees and State Forestry Committee. (Re-Edited Appraised Project Document, Feb-1989)

Within a year from the commencement of the project, doubts were being expressed by the SIDA review missions about the magnitude of the block plantation targets. The review missions felt that the targets forced the SF wing to establish plantations at a rate which conflicted with the objective of encouraging participation by the community. The size of the planting programme was also questioned in view of the growing difficulty in securing communal land as in many places such land was used for grazing and other common purposes. SIDA, therefore, recommended that the targets should be reduced.

In June 1984 the targets for tank fore shore, poromboke and fodder plantings were merged into a single target for block planting. Later in 1984 annual block
plantings were reduced by 50 per cent in order to allow for more intensive extension activities and increased attention to the quality of the work. At the beginning of the final year it was decided keeping in view the difficulties experienced in obtaining land, to confine further activities to replanting in existing areas. (Mike Arnold et.al.,1987)

By the time of the mid-term review it was evident that farm forestry was progressing at a pace considerably faster than allowed for in the TCIP and TCEP targets. The target for incentive programme directed at the poor was, therefore, doubled to 5 millions seedlings a year and the cash payments for surviving plants increased. To prevent any diversion of support from the target groups to big farmers and commercial tree growing narrower criteria for entitlement to TCIP support were introduced. But the most important change in the direction of the project was the decision of the State Government in 1985 that the responsibility for block planting on poromboke lands would be transferred from the Forest Department to the Rural Development Department which controlled panchayat affairs. The eventual targets that emerged after the revision are as follows:

* BLOCK PLANTING (hec) - 158,080
* STRIP PLANTING (km) - 6075 TO 6825
* TCIP (No. of Seedlings) - 15,080,000
* TCEP (No. of Seedlings) - 37,500,000

(Source : Re-Edited Appraised Project Document, Feb-1989)

The yearwise and componentwise physical targets and achievements are furnished in table 3.1:

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### TABLE 3.1
YEARWISE AND COMPONENTWISE PHYSICAL TARGETS AND ACHIEVEMENTS FROM 1981-82 TO 1987-88

(T=Target  A=Achievements)

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>1</td>
<td>FARM FORESTRY</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Millions of seedlings</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a) Tree Cultivation</td>
<td>15</td>
<td>1.02</td>
<td>3.48</td>
<td>3.77</td>
<td>6.30</td>
<td>9.11</td>
<td>7.78</td>
<td>9.11</td>
</tr>
<tr>
<td></td>
<td>incentive programme</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7.75</td>
<td>14.82</td>
</tr>
<tr>
<td></td>
<td>b) Tree Cultivation</td>
<td>28</td>
<td>2.51</td>
<td>6.5</td>
<td>9.36</td>
<td>18.5</td>
<td>27.15</td>
<td>20.95</td>
<td>32.71</td>
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<tr>
<td></td>
<td>Extension programme</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>20.95</td>
<td>27.68</td>
</tr>
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<td>2</td>
<td>COMMUNITY FORESTRY</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a) Block Planting</td>
<td>23005</td>
<td>23688</td>
<td>34670</td>
<td>28782</td>
<td>29410</td>
<td>23280</td>
<td>24825</td>
<td>21655</td>
</tr>
<tr>
<td></td>
<td>Hectares</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>17000</td>
<td>15224</td>
</tr>
<tr>
<td></td>
<td>b) Strip Planting</td>
<td>805</td>
<td>1284</td>
<td>1775</td>
<td>1854</td>
<td>1925</td>
<td>1698</td>
<td>1720</td>
<td>1769</td>
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<tr>
<td>3</td>
<td>RECREATION FORESTRY</td>
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<tr>
<td></td>
<td>Millions of Seedlings</td>
<td></td>
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<td></td>
<td></td>
<td>2.4</td>
<td>0.3</td>
</tr>
</tbody>
</table>

The yearwise and componentwise financial targets and achievements are presented in Table 3.2:

**TABLE 3.2**


<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td></td>
<td>T</td>
<td>A</td>
<td>T</td>
<td>A</td>
<td>T</td>
<td>A</td>
<td>T</td>
<td>A</td>
</tr>
<tr>
<td>A. Plantations</td>
<td>40.62</td>
<td>31.88</td>
<td>61.51</td>
<td>51.54</td>
<td>70.45</td>
<td>64.57</td>
<td>75.86</td>
<td>71.08</td>
</tr>
<tr>
<td>B. Staff</td>
<td>9.08</td>
<td>4.80</td>
<td>11.47</td>
<td>10.99</td>
<td>13.16</td>
<td>12.88</td>
<td>15.95</td>
<td>15.55</td>
</tr>
<tr>
<td>C. Buildings</td>
<td>1.01</td>
<td>0.70</td>
<td>3.06</td>
<td>0.41</td>
<td>1.02</td>
<td>0.85</td>
<td>2.00</td>
<td>1.16</td>
</tr>
<tr>
<td>D. Vehicles</td>
<td>7.61</td>
<td>4.02</td>
<td>1.04</td>
<td>4.53</td>
<td>0.51</td>
<td>1.75</td>
<td>1.93</td>
<td>2.28</td>
</tr>
<tr>
<td>E. Office equipments</td>
<td>1.68</td>
<td>0.43</td>
<td>0.20</td>
<td>1.28</td>
<td>0.15</td>
<td>0.92</td>
<td>0.05</td>
<td>0.78</td>
</tr>
<tr>
<td>F. Tools</td>
<td>—</td>
<td>—</td>
<td>0.15</td>
<td>0.16</td>
<td>0.05</td>
<td>0.60</td>
<td>0.01</td>
<td>0.09</td>
</tr>
<tr>
<td>G. Research</td>
<td>0.13</td>
<td>—</td>
<td>0.50</td>
<td>0.78</td>
<td>0.50</td>
<td>0.68</td>
<td>1.00</td>
<td>0.54</td>
</tr>
<tr>
<td>H. Training</td>
<td>0.03</td>
<td>0.075</td>
<td>—</td>
<td>0.20</td>
<td>0.08</td>
<td>0.20</td>
<td>0.01</td>
<td>0.05</td>
</tr>
<tr>
<td>I. Publicity</td>
<td>0.18</td>
<td>—</td>
<td>0.50</td>
<td>0.11</td>
<td>0.30</td>
<td>0.30</td>
<td>0.75</td>
<td>0.37</td>
</tr>
<tr>
<td>J. Monitoring</td>
<td>0.08</td>
<td>—</td>
<td>1.00</td>
<td>0.35</td>
<td>0.40</td>
<td>0.34</td>
<td>0.50</td>
<td>0.27</td>
</tr>
<tr>
<td>Total</td>
<td>60.42</td>
<td>41.83</td>
<td>80.18</td>
<td>69.95</td>
<td>86.74</td>
<td>82.97</td>
<td>98.25</td>
<td>92.13</td>
</tr>
</tbody>
</table>

Though the gains under SFPI have been quite impressive it must be admitted that the programme was an ambitious one. Project evaluations have revealed among other things that:

- Extensive areas of plantations were established on tank foreshores but much less on poromboke fields and plains.
- Even though a large number of seedlings were distributed for private planting the beneficiaries were mostly big farmers and land owners.
- The participation of the community in SF activities did not come up to expectation because of conflict of interest within the villages and because the villagers were at a loss to understand the administrative procedure.
- Project orientation towards meeting subsistence needs for fuelwood tended to delay the recognition of the greater potential of the programme to raise rural income.
- Low productivity (of tree growth) was the common characteristic of all the components (Re-Edited Appraised Project Document February, 1989).

SFP II became operative from 1st April 1988 and was intended to go up to 31st March 1993. The major policy changes in this phase are:

* To ensure that benefits flow to concerned target groups, specific project components have been linked to identifiable target groups.
* To give special forms to improved quality and increase in productivity.
* To motivate and assist the communities to take over the management of plantation.
* To ensure appropriate market orientation of the private SF practitioners.
* To stress on fodder production in addition to fuelwood production.
* To undertake research and development in collaboration with appropriate institutions.
The “TREE PATTA SCHEME” is one of the important components of the second phase of SFP in Tamil Nadu. It was evolved to make SF a people’s movement and ensure better survival of seedlings planted in communal poromboke lands in the blocks. Tree pattas were given to local landless rural poor women following IRDP norms of “Poorest Among The Poor”, the S.C. / S.T. families forming not less than 50 per cent of the total beneficiaries. Each beneficiary was given the right to trees planted in one acre (in case of block plantations) or one kilometer (in case of strip plantations) in panchayat land.

The duties and responsibilities of the beneficiaries are:

- She will attend to soil working, weeding, watering at frequent intervals so as to maintain 80 per cent survival rate.
- She will protect the plants from animals and not remove the trees till the completion of the specified period.
- She will be responsible for filling up gaps in the plantation. Necessary seedlings will be supplied. The beneficiary is entitled to the following usufructory rights:
  - To gather dead branches and parts of dead trees.
  - To take twigs and loppings of branches.
  - To harvest produce such as fruits, flowers, seeds, leaves, trappings etc.,
  - To carry on tree-based activities like bee keeping, lac production etc.,
  - To coppicing of the trees and
  - To hypothecate only trees, without land, to financial institutions for loans. (Re-Edited Appraised Project Document, Feb-1989)

The beneficiary will have no ownership or any other right over the land. She can only raise trees in it. She shall not transfer or sub-let or otherwise dispose of the lands. She shall not raise on the land even a temporary hut or shed for her stay. If she violates any of these conditions she may lose her patta rights. The
Government allowed four mandays wages (paid in cash and food grains) as the cost of maintaining the seedlings provided the survival rate was not less than 80 per cent of the seedlings planted. The officials of the Rural Development Department were assigned important task such as land survey, selection of species, obtaining quality seedlings from Kisan Nurseries, selection of beneficiaries and award of patta. (Re-Edited Appraised Project Document, Feb-1989)

Another important component of SF in Tamil Nadu in its second phase is "Agro-Forestry in Dry land". The potential land area for this component is large. The owners of this land would coincide to a great extent with the target groups of SF, namely, small and marginal farmers. In Tamil Nadu, 3.4 million hectares of land is categorized as dry land i.e., a land which solely depends on rain for cultivation. This is about 60 per cent of the total cultivated area in the state. Due to inadequacy of rainfall and erratic nature of monsoon some of the land is unsuited for agriculture and even afforestation is doubtful. Nearly half of the population of the state depend on such land for their livelihood and they contribute roughly 30 per cent of the State Gross Product (Re-Edited Appraised Project Document 1989).

The implementation of the "Agro-Forestry in Drylands" was entrusted to the State Agricultural Department which is in charge of all farming practices in the state. It was given the responsibility of educating the farmers about the advantages of agro-forestry practices in dryland farming and about how it could be more remunerative than conventional methods. In the implementation of the programme districts with low rainfall and large area of fallow dry land were given preference. The small and marginal farmers formed the target group in this programme. A variety of seedlings for fuel, fodder, timber and fruit were distributed to farmers according to their preference. The maximum number of sapling per beneficiary was 500.

The Agriculture Department has the facilities and capacity to produce the seedlings required by the beneficiaries. However, in accordance with the directives from NWDB the Kisan Nurseries in the districts have been given the responsibility
of providing 80 per cent of the seedlings. Supply of seeds for the nurseries and the technical help required for raising quality seedlings were assigned to SF wing. The remaining 20 per cent of the seedlings was provided by the State Seed Farms.

In drought prone areas seedlings of multiple use trees such as tamarind, sapota, amla, neem and silk cotton were supplied to farmers free of cost for planting along the field bunds of these areas. In wind swept areas along the coast and across the mountain gaps seedlings of casuarina, cassia siamea, pungan and cuttings of nochi were given for planting to raise shelter beds for protecting crops. For homestead and farm stead lands seedlings of species useful in day to day life like moringa, curry leaf, papaya, amla, sababul and lime were supplied free of cost to the farmers.

Another important component of SFP phase II in Tamil Nadu is the Community Wasteland Development Programme. This component included all community plantations established by the forest department since 1960 and new plantations raised on lands made available by the Government of Tamil Nadu. The main thrust of the programme was to establish a system of self-sustained and improved community assets. While the main objective of this component is to establish self-sustaining assets in community lands including PWD tank beds and tank foreshores for the benefit of the villagers, the main strategy was to improve the productivity of plantations (rotational and non-rotational) and to introduce management systems that could be maintained on a suitable basis by local bodies.

Tank bed plantations which form the bulk of the community wood lots have been raised with species which can be harvested on a short rotation of ten years. Babul is the predominant species, followed by “Velvel.” While bulk of the plantations have proved commercially viable there are some plantations which lack viability. The factors responsible for their non-viability are:

- Confining the choice to a few species
- Inappropriate technique
- Inherent edaphic factors
- Hydrological factors

Under the farm forestry programme the plantations raised by the forest department were protected by employed Plot Watchers (PW) one for each 40 hectares of plantation and a new concept of Village SF Workers (VSFWs) was introduced. This new category of project personnel were included to function as extension staff for SF and it was expected that participation by the villagers would supplement departmental protection.

Interface Forestry Programme is another component of SFP II in Tamil Nadu. It was meant for reforestation of degraded reserve forests focussing on the interface areas situated next to villages. An interface forest is that part of degraded reserve forest which forms the catchment for direct and indirect benefit flows to rural communities in its command area. The Interface Forestry Programme aims at treating and managing such a catchment to ensure increased benefit flows to improve the living condition of people residing in the adjacent rural settlements. This was to be achieved through a multifaceted package consisting of labour opportunities, availability of forest produce at confessional rates, increased availability of water throughout the year and soil and water conservation as well as tree planting in community and patta lands.

The concept of Interface Forestry goes beyond reforestation and water management and attempts to meet the labour and forest product needs of the adjacent communities and it seeks their active participation in the planning implementation and maintenance of the programme. Such a multi-disciplinary approach will require inputs from and the support and cooperation of other government and non-government organizations. The SF Wing will have to work with such organizations closely to bring about a comprehensive and integrated
The Second Phase of the Tamil Nadu SFP has been implemented by three departments of the Government of Tamil Nadu, namely, the Forest Department, the Agriculture Department and the Rural Development Department. The Forest Department in addition to implementing the Community Wasteland Development Programme and the Interface Forestry Programme has been given the additional responsibility of providing quality seeds and seedlings for all the components, providing extension support to kisan nurseries to ensure quality seedling supply and providing staff and beneficiary training to the Rural Development Departments Tree Patta Scheme. The Forest Department has been made the nodal agency for SFP II. To promote interdepartmental coordination and co-operation a high level coordination committee has been set up. The Commissioner for Agricultural Production of the Government of Tamil Nadu is its convener and chairman and the head of the SFW is its ex-officio Secretary.

It is evident from the foregoing study that SFP in Tamil Nadu has been carried out in two phases. In both the phases the state government has availed the assistance provided by SIDA. The Appraised Project Document for both the phases has been approved by the Government of Tamil Nadu, Government of India and the SIDA Appraisal Mission. The Project implementation came to a close in 1993-94 when the second phase was completed.

Achievements of SFP Phase I & II are given below:
### TABLE 3.3
**PERFORMANCE OF SOCIAL FORESTRY IN TAMIL NADU AT A GLANCE**

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Social Forestry</th>
<th>Interface</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>No. of Social Forestry Divisions (including Interface Forestry)</td>
<td>23</td>
<td>8</td>
<td>23</td>
</tr>
<tr>
<td>2.</td>
<td>Area covered under Forestry Project (Up to 1993-94)</td>
<td>3.36</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pre-SIDA</td>
<td>-1.30 lakhs</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SIDA Ph.I</td>
<td>-1.40 lakhs</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SIDA Ph.II</td>
<td>-0.66 lakhs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>No. of seedlings planted (Up to 1993-94)</td>
<td>6749 lakhs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Plantations sold in ha. (Up to 1993-94)</td>
<td>154880.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Total Revenue (Rs. in lakhs) (from 1981-82 to 1993-94)</td>
<td>5612.30</td>
<td>Phase I</td>
<td>1126.19</td>
</tr>
<tr>
<td></td>
<td>Phase II</td>
<td>4486.11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Total Share paid to Panchayats (Rs. in lakhs) (up to 1993-94)</td>
<td>2422.24</td>
<td>Phase I</td>
<td>399.00</td>
</tr>
<tr>
<td></td>
<td>Phase II</td>
<td>2422.24</td>
<td>Phase II</td>
<td>2023.24</td>
</tr>
<tr>
<td>7.</td>
<td>Revenue (Rs. in lakhs) (for 1993-94)</td>
<td>1085.63</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Share paid to Panchayats (for 1993-94) (Rs. in lakhs)</td>
<td>404.17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>Total amount spent in Phase I (1988-89 to 1993-94) (Rs. in lakhs)</td>
<td>5695.90</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>SIDA Reimbursement Phase I</td>
<td>2790.89</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>Total amount spent in Phase II (1988-89 to 1993-94) (Rs. in lakhs)</td>
<td>11682.88</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.</td>
<td>SIDA Reimbursement Phase II (Rs. in lakhs)</td>
<td>6364.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13.</td>
<td>No. of Panchayats benefited by Programme</td>
<td>12000.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14.</td>
<td>No. of Panchayats to whom share amount paid</td>
<td>2055</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Source:** Performance Indicators on SF March 1994-Chief Conservator of Forests SF Wing Madras, March 1994 (Unpublished Report)
It can be seen from the above table that there has been a sizable increase in total revenue from the project and total share paid to the panchayats during the Second Phase of the Project. This was because many of the plantations undertaken during the phase I started yielding fruits during the Phase II. The area covered under the Phase II (0.66 lakh ha) is less than the one covered under phase I (1.40 lakh ha). The data show that up to 1993-94 (the final year of the project) plantations in an area of 1,54,880 ha have been sold. It is also worth noting that out of the 12,000 panchayats benefited by the project only 2055 have received share amount.

Particulars of componentwise achievements (from 1981-82 to 1993-94) in terms of area brought under the various components are given below:

**TABLE 3.4**

COMPONENTWISE ACHIEVEMENTS IN TAMIL NADU

(FROM 1981-82 TO 1993-94)

A. BLOCK PLANTING (Area in hec)

<table>
<thead>
<tr>
<th>Component</th>
<th>Area (hec)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tank bed</td>
<td>161155</td>
</tr>
<tr>
<td>Poromboke Plains</td>
<td>10830</td>
</tr>
<tr>
<td>Poromboke Hillocks</td>
<td>33737</td>
</tr>
<tr>
<td>Fodder</td>
<td>1672</td>
</tr>
</tbody>
</table>

B. STRIP PLANTING (in km)

<table>
<thead>
<tr>
<th>Component</th>
<th>Length (km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Road Avenue</td>
<td>5951</td>
</tr>
<tr>
<td>Railway line</td>
<td>1908</td>
</tr>
<tr>
<td>River / Canal bank</td>
<td>2044</td>
</tr>
<tr>
<td>Tank bund</td>
<td>603</td>
</tr>
</tbody>
</table>

10506

C. INTERFACE FORESTRY (hec) : 27284

The data show that the main thrust of the SFP in Tamil Nadu has been the establishment of community wood lots for meeting the requirements of the poor. As the scope for raising such plantations was limited to tank fore shore areas afforestations of tank beds constituted nearly 75 per cent of the total coverage under block plantations. There are 38,314 tanks (both major and minor) in the state with a total extent of 57,950 ha of tank bed. Encroachment of tank bed for agricultural purpose appears to be one of the major factors which have given rise to tank foreshore cultivations (D. Sen et. al., 1993)

One of the objectives of SFP in Tamil Nadu is to generate employment to people belonging to socially and economically weaker sections of society. Particulars of employment generated in Tamil Nadu during the I and II phases of SFP are furnished below:

**TABLE 3.5**

EMPLOYMENT GENERATED UNDER SOCIAL FORESTRY PROJECT IN TAMIL NADU

<table>
<thead>
<tr>
<th>Year</th>
<th>Employment generated in lakhs mandays</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHASE I</td>
<td></td>
</tr>
<tr>
<td>1981-82</td>
<td>26</td>
</tr>
<tr>
<td>1982-83</td>
<td>41</td>
</tr>
<tr>
<td>1983-84</td>
<td>50</td>
</tr>
<tr>
<td>1984-85</td>
<td>55</td>
</tr>
<tr>
<td>1985-86</td>
<td>68</td>
</tr>
<tr>
<td>1986-87</td>
<td>74</td>
</tr>
<tr>
<td>1987-88</td>
<td>75</td>
</tr>
<tr>
<td></td>
<td>389</td>
</tr>
<tr>
<td>PHASE II</td>
<td></td>
</tr>
<tr>
<td>1988-89</td>
<td>61</td>
</tr>
<tr>
<td>1989-90</td>
<td>70</td>
</tr>
<tr>
<td>1990-91</td>
<td>78</td>
</tr>
<tr>
<td>1991-92</td>
<td>80</td>
</tr>
<tr>
<td>1992-93</td>
<td>89</td>
</tr>
<tr>
<td>1993-94</td>
<td>89</td>
</tr>
<tr>
<td></td>
<td>475</td>
</tr>
</tbody>
</table>

Particulars of expenditures on SFP Phase I and II in Tamil Nadu are furnished in Table 3.6.

### TABLE 3.6
EXPENDITURE ON SOCIAL FORESTRY PROJECT IN TAMIL NADU

(Rupees in Lakhs)

<table>
<thead>
<tr>
<th>YEAR</th>
<th>APD</th>
<th>PLAN OF OPERATION</th>
<th>BUDGET ESTIMATE 4</th>
<th>REVISED ESTIMATE 5</th>
<th>F.M.A. 6</th>
<th>ACTUALS 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1981-82 to 1987-88 PHASE I</td>
<td>—</td>
<td>—</td>
<td>5797.28</td>
<td>5591.23</td>
<td>5907.17</td>
<td>5595.9</td>
</tr>
<tr>
<td>1988-89 PHASE II</td>
<td>1480.00</td>
<td>—</td>
<td>1193.55</td>
<td>1245.69</td>
<td>1266.62</td>
<td>1273.46</td>
</tr>
<tr>
<td>1989-90</td>
<td>1616.00</td>
<td>1594.07</td>
<td>1266.16</td>
<td>1693.40</td>
<td>1669.40</td>
<td>1600.33</td>
</tr>
<tr>
<td>1990-91</td>
<td>1707.00</td>
<td>1612.53</td>
<td>1612.53</td>
<td>1923.73</td>
<td>1963.08</td>
<td>1947.03</td>
</tr>
<tr>
<td>1991-92</td>
<td>1817.00</td>
<td>2171.28</td>
<td>1955.00</td>
<td>2028.82</td>
<td>2036.26</td>
<td>1953.66</td>
</tr>
<tr>
<td>1992-93</td>
<td>1921.00</td>
<td>2410.61</td>
<td>2277.79</td>
<td>2378.63</td>
<td>2433.11</td>
<td>2400.08</td>
</tr>
<tr>
<td>1993-94</td>
<td>2547.90</td>
<td>2488.00</td>
<td>2483.00</td>
<td>2936.29</td>
<td>2550.37</td>
<td>2508.32</td>
</tr>
<tr>
<td>TOTAL</td>
<td>11087.90</td>
<td>10276.49</td>
<td>10788.03</td>
<td>12206.56</td>
<td>11918.84</td>
<td>11682.88</td>
</tr>
</tbody>
</table>


Column-2 of the table provides information about expenditure envisaged in the Appraised Project Department. Column-4 and 5 contain information about budget provision for the project. Column 6 contains information about Final Modified Appropriation. It must be noted that actual expenditure is more or less equal to final modified appropriation.
The foregoing analysis has focussed attention on the problem created by depletion of forest cover in India, the evolution and growth of SF as a solution to the problem of wanton destruction of forests which has been going on for a very long time, the potential of social forests to mitigate the intensity of rural fuel and fodder crisis and the performance of the SFP at the National and the State of Tamil Nadu level. It provides a backdrop to the present study. The physical, social and economic characteristics of the area where this study has been conducted are presented in the next chapter.