Adhoc Study No.51

MANAGEMENT OF SOCIAL FORESTRY IN MADHYA PRADESH

K.G. SHARMA

AGRO-ECONOMIC RESEARCH CENTRE
FOR MADHYA PRADESH

JAWAHARLAL NEHRU KRISHI VISHWA VIDYALAYA
JABALPUR- 482 004(MP)

1986

PROJECT TEAM

PROJECT LEADER

K.G. SHARMA

ASSOCIATES

B.S. PATEL

KAMTA PRASAD

SHRIKANT UPADHYE

C.K. MISHRA

STENCILLING

A.S. KHAN

MIMEOGRAPHING

ROHINI PRASAD

C O N T E N T S

*****

CHAPTER-I

INTRODUCTION

1.1 Importance of Forest Wealth

Forests and forest wealth of the country have been subjected to indifferent treatment for quite sometime. While the area under forest was showing decline, though marginally, owing among others for the extension of cultivation to keep pace with the needs of food for the increasing population. The forest wealth was exposed to several onslaughts, such as, indiscriminate grazing, falling of trees etc. Denudation of hill slopes and forests poses serious problems not only of quick exhaustion of forest wealth leading to serious shortages of fuel, timber, fodder etc. but also threat to wild life. Deforestation has resulted in vagaries of weather, erratic rainfall, accelerated soil erosion, ecological imbalances etc. To arrest the trend of deforestation, positive steps to conserve and to promote the forest wealth by judicious use of the existing resources by developing the same are necessary. By now the importance of conservation of forests and forestry development has been recognised. The idea behind this is to improve the ecological imbalances as well as the socio-economic conditions of the masses as speedily as possible. The basic philosophy guiding the developmental approach is 'growth with social justice'. The present 20 point programme is designed to canalise the development efforts of the government towards the poorest among the poors of our society. Most of the tribals are poor and dwell in the forests. Consequently, forest policies have tc play a vital role for the development of a large section of the under privileged and unprotected tribal community. Any forest policy, therefore, needs to be developed around this cardinal principle if forests have to play their key-role in this task of national reconstruction.

1.2 Need for Social Forestry

The forest area of the country is 67.44 million hectares which is about 22 percent of the total geographical area. A sizable portion of this area is in a state of degradation or is having very poor tree growth. The per capita forest area worked out is 0.11 hectares which is extremely low. As per the national forest policy there is need to have a minimum of 33.33 per cent of area under forests in the country to provide social and economic benefits to the people consistent with maintenance of ecological equilibrium and environmental security.

The importance of social forestry was recognised much earlier in the country. The Vanmahotsava was started as early as in 1950. Unfortunately this programme could not produce desired impact amongst the people and remained only a formality. A modest start for the social forestry was made during 1976-77. Since then more and more efforts were made in this direction. This programme aims at promoting forests in the degraded forest areas, planting trees on community lands and those owned by individual farmers apart from plantation programmes on the foreshore of tanks, road margins and canal bunds. Under this programme all land which is not used for productive purposes but could be planted, is expected to be covered irrespective of ownership. The aim of the programme is not only to restore the ecological balance but also to meet the requirements of the rural poor for fire wood, fodder and food and materials for village cottage industries.

1.3 Aims of Social Forestry Programme

The first and foremost objective of the present programme has been termed as making people "tree conscious" and to make social forestry "a way of life" as it was in ancient days. Tree

culture is to be spread over the whole country. Social forestry movement is to be supported and expanded till it becomes a people's movement and a way of life.

In addition to above it also aims at :

(i) in providing fire wood, fodder and small timber to rural people,

(ii) in providing timber for sustaining and creating village level cottage industries based on wood and other forest based raw material,

(iii) in improving socio-economic level of the village through increased avenues of gainful employment,

(iv) in improving the income from marginal agricultural lands through tree cultivation,

(v) in maximising the use of agricultural and community land,

(vi) in reducing dependence of people on national forests for their domestic need.

As the above aims speak themselves, the philosophy of social forestry can take a concrete shape only through active involvement of massess. Involvement of people at all level of implementation of the programme. Whether it is leadership or it is planting, whether it is extension work or it is actual planting of seedlings, whether it is protection, rearing, harvesting or it is its distribution or consumption of forest produce subsequently every where and every stage it is peoples participation which is going to make the programme a success.

The social forests would cover waste lands, common village lands, panchayat lands and lands on the both sides of roads, railway lines, canal banks which may be brought under forest plantations,

shelter belts and mixed forestry comprising growing of grass and leaf fodder, fruit trees and fuel wood trees. The social forests would also include minor forests which are normally marginal forests depleted due to over exploitation and uncontrolled grazing in the past for meeting local demands of the population and such other lands as are dedicated to recreation forestry.

1.4 Objectives of the Study

The present study of the social forestry programme has the following objectives :

(i) to review the social forestry programme as initiated by the M.P. Government,

(ii) to study the implementation of the programme,

(iii) to study the achievements of the programme,

(iv) to study the response and acceptance of the programme by the rural people,

(v) to suggest ways to improve the programme to do better in future.

1.5 Sample

In Madhya Pradesh 14.21 million hectares i.e. 32.14 per cent area is under forest. The forest area per capita worked out is 0.27 hectare as for 1981 census. The total forest area of the state covers 21.06 per cent of total forest area in the country. Thus in respect of forest area, Madhya Pradesh is much better placed than the adjoining states viz. Andhra Pradesh (22.67%), Maharashtra (17.41%), Uttar Pradesh (17.14%), Rajasthan (3.83%) and Gujrat (10.47%).

Though the state has got 32.14 per cent of the total area under forests, the distribution of the forest area is not proper

as 26 out of 45 district of Madhya Pradesh are facing fuel wood crisis. This is indicated in the survey conducted by the forest department of M.P.

The centrally sponsored scheme of Social Forestry in all covered 101 districts of the country and out of them 10 districts were in Madhya Pradesh viz. Rewa, Ratlam, Indore, Bhopal, Gwalior, Jhabua, Seoni, Jabalpur, Bilaspur and Raipur. In addition the social forestry programme under USAID was to cover 29 districts in five phases. By now it has completed third phase and has covered 21 districts. Among these Dhar district has maximum concentration.

Phasewise coverage of districts under USAID/Social forestry programme

Phase	No.of Districts	Name of Districts
First phase	3	Dhar, Ratlam, Shivpuri
Second Phase	13	Indore, Dewas, khargone, Ujjain, Mandsaur, Shajapur, Morena, Bhind, Datia, Guna, Bhopal, Rajgarh, Gwalior
Third Phase	5	Sehore, Vidisha, Raipur, Bilaspur, Durg,
Fourth Phase	5	Rajnandgaon, Rewa, Satna, Tikamgarh, Panna
Fifth Phase	3	Chhatarpur, Saugar, Damoh.

Discussions were held with the State Forest Officials wno suggested that Dhar and Raipur districts may be selected on the basis of social forestry programme carried out in the state. Thus these two districts were selected for the present study. From each district two blocks and from each block one grampanchayat having larger concentration of social forestry activities were selected. From each gramparchayat 20 participant and 5 non-participant farmers were selected. On this basis 100

farmers were selected and Tirla and Nalchha blocks from Dhar district and Fingeshwar and Tilda block from Raipur were covered under this study. The grampanchayat selected were Chiklya from Tirla block, Nalchha from Nalchha block in Dhar district and Arand from Fingeshwar block and Kota from Tilda block in Raipur district were chosen as third stage sample.

For the fourth stage sample the list of participant farmers from each grampanchayat was prepared on the basis of size of holdings and twenty farmers were selected by random sampling method. Accordingly five nonparticipant farmers were also selected.

1.6 Methodology

Structured schedules and questionnaire were prepared to collect both primary and secondary data by survey method. The secondary data were collected from official records and the primary information was solicited from the sample farmers by convassing the schedules and questionare prepared for this purpose.

Data were collected by survey method in four rounds with the cooperation of Social Forestry Directorate and its officials posted in the sample districts. Data were analysed by applying simple statistical tools and were summarised in the form of a report.

1.7 Reference year

Though it was proposed that the study should be conducted during 1983-84 but during the first visit in August 83 it was reported that the implementation of the proposed social forestry programme specially the plantation work was initiated since July 83. In view of the present objectives it was felt better to conduct the study after a year or so as per suggestions of the state forest officials. Hence the study was postponed and was actually conducted during 1984-85.

.....

C H A P T E R-II

BACKGROUND OF MADHYA PRADESH

2.1 Location

Centrally situated between the latitudes $17^{\circ}48'$ N to $26^{\circ}52'$N and the longitudes $74^{\circ}2'$E to $84^{\circ}24'$E, Madhya Pradesh is said to be the heart of India having Uttar Pradesh and Rajasthan in the north, Andhra Pradesh in the South Maharashtra in the west and Orissa and Bihar states in the east.

east.

2.2 Area, Villages and Administrative Divisions

Madhya Pradesh is biggest in area amongst all the Indian States. It is occupying an area of 4,43,446 sq.kms. which is inhibited by 76,603 villages and 327 cities and towns. For administrative purposes the state is divided into 45 districts which are further grouped into 12 divisions. The developmental activities in the state are channelized through 459 development blocks. In addition under tribal sub-plan 62 Integrated Tribal Area Development Projects are also running in the scheduled tribal areas of the state.

2.3 Population and its characteristics

Madhya Pradesh ranks sixth in the population amongst the Indian states. In the census 1981, there returned 5,21,78,844 persons including 2,68,86,305 males and 2,52,92,539 females. In the density of population, Madhya Pradesh occupies 14th position amongst the states excluding the smaller states and union territories. It had 118 persons per square kilometre. There returned 941 females for every 1000 males.

The state population comprised 22.97 per cent scheduled tribes men and 14-10 per cent scheduled castes people. The

literacy in the state was reported 27.82 per cent while growth rate for the last decade (1971 and 1981) was 25.15 per cent. Madhya Pradesh is mainly a rural state and its 4,15,92, 385 persons or 79.71 per cent reside in the country side. Proportion of workers in the state population was 38.41 per cent. Amongst the workers 51.96 per cent were cultivators, 24.24 per cent agricultural labourers and remaining 23.80 per cent workers were engaged in other trades.

2.4 Physical Features

Broadly speaking the state is full of forest clad-hilly-terrains. The Vindhyas and Satpuras are the two parallel mountain ranges running west to east through the middle of the state. Narmada is the longest river running through the state for more than 1000 Kilometres from east to west. It has its origin at Amarkantak in Shahdol district.

The main physical regions of the state are :-

(i) the Northern Region (ii) the Malwa Plateau (iii) the Narmada valley (iv) the Satpura Ridge and (v) Chhattisgarh Plains.

The main river systems in the state are the Chambal, Betwa, Sone, Narmada, Tapti, Mahanadi and Indrawati.

The state is divided into six catchments of the six important rivers viz. Jamuna, Narmada, Tapti, Godawari, Mahanadi and Ganga. The catchment of Jamuna covers largest area of the state followed by those of Narmada and Mahanadi. The catchments of Godawari and Ganga also cover an appreciable area but that of Tapti is confined to a small area in the south of Satpura Hills in Betul and Khandwa districts. The catchment of Narmada is located in the central part of the state. It is separated from

the catchment of Jamuna in the north by the ranges of Vindhya and Bhander hills, from the catchment of Tapti and Godawari in the south by the Satpura and Mahadeo hill ranges, from the catchment of Mahanadi in the east by Maikal hills and from the catchment of Ganga in the north east by the eastern flanks of the Vindhya hills.

2.5 Climate

Average rainfall of the state is 1135 mm. per annum. The most important rainfall characteristic of the state is that about nine-tenth of it falls during the monsoon season i.e. June to September. Neither the total annual rainfall nor its distribution in various months of the year has any stability, as both suffer from a high degree of variability. The classification of districts according to average annual rainfall is as follows (Table 2.1).

Table 2.1 Classification of districts by annual rainfall

Annual (Normal) Rainfall		Districts included
1.	Below 875 mm	Bhind, Morena, Datia, Gwalior, Shivpuri, Mandsaur, Jhabua, Khargone, Dhar
2.	875 mm to 1000 mm	Khandwa, Ujjain, Ratlam, Indore, Shajapur
3.	1000 mm to 1125 mm	Tikamgarh, Guna, Chhatarpur, Dewas, Betul, Satna, Rajgarh
4.	1125 mm to 1500 mm	Vidisha, Panna, Damoh, Rewa, Sagar, Sehore, Sidhi, Durg, Jabalpur, Hoshangabad, Narsinghpur, Chhindwara, Raisen, Seoni, Raipur, Bilaspur, Shahdol, Surguja
5.	1500 mm & above	Bastar, Mandla, Raigarh, Balaghat

January and February are the coldest months in the year and the May and June are the hottest months.

2.6 Soil

The main soil types met with in the state are alluvium, deep black, medium black, shallow or light black, mixed red and black, mixed red and yellow and skeletal or gravel. The classification of districts according to predominant soil types is as follows (Table 2.2).

Table 2.2 Classification of districts according to soil types

	Soil types	Districts included
1.	Alluvial soil	Gwalior, Morena, Bhind
2.	Deep black soil	Narmada valley (Narsinghpur, Hoshangabad and part of Jabalpur district).
3.	Medium black soil	Raigarh, Mandsaur, Shajapur, Ratlam, Ujjain, Dewas, Indore, Jhabua, Dhar, Sidhi, Shahdol, Damoh, Sagar, Khandwa, Raisen, Sehore, Bhopal, part of Jabalpur and southern part of Shivpuri district
4.	Shallow black soil	The central Satpuras covering the districts of Seoni, Chhindwara and Betul
5.	Mixed red and black soil	Rewa, Satna, Panna, Chhatarpur, Tikamgarh, Datia, and part of Shivpuri district
6.	Red and yellow soil	Raipur, Raigarh, Bilaspur, Durg, Rajnandgaon, Balaghat, and part of Mandla, Surguja & Bastar
7.	Skeletal or gravel soil	The stony uplands of the Vindhya and Satpura ranges covering part of Shahdol, Raigarh, Mandla, Surguja, Bastar, and Jhabua

2.7 Land utilisation

Geographical area of the state is 441.98 lakh hectares, of which 188.47 lakh hectares or 46.69 per cent is cultivated as compared to 54.14 per cent for the country as a whole.

Area under non-agricultural uses accounted for 53.31 per cent including 32.14 per cent forests. The proportion of forest area in the country was lesser, the figures being 22.13 per cent. Madhya Pradesh has an area of 142.05 lakh hectares under forest and it covers 21.06 per cent of the total area under forests in the country.

About 10 per cent of area in the state is not available for cultivation and 6.57 per cent is put under culturable waste including 2.42 per cent as permanent fallow. Another 6.78 per cent is uncultivable which includes pastures, grazing lands, tree crops and groves (Table 2.3).

In short, in Madhya Pradesh is having 53.31 per cent of its total geographical area under non-agricultural uses including 12.05 per cent under permanent pastures, uncultivable land and small trees which can be very well utilized under social forestry programme.

2.7.1 Forests

Forests occupy an important place in the economy of the state and forest resources provide second largest proportion in the total income of the state. The proportion of forest area to the total geographical area of the state was 31.15 per cent in 1956-57 which had increased to 31.74 per cent in 1981-82.

Table 2.3 Land use classification of India and Madhya Pradesh 1978-79

(Unit-Lakh hectares)

Particulars	Madhya Pradesh		India		Percentage of M.P. to India
	Area	%	Area	%	
1. Forests	142.05	32.14	674.41	22.13	21.06
2. Land put to non-agricultural uses	21.82	4.94	178.02	5.84	12.26
3. Barren and uncultivable land	23.03	5.21	214.97	7.06	10.71
4. Permanent pastures and other grazing lands	28.77	6.51	121.55	3.99	23.67
5. Land under misc. trees, crops and groves	1.44	0.33	39.10	1.28	3.68
6. Culturable waste	18.49	4.18	169.48	5.56	10.91
7. Current fallows	8.58	1.94	124.43	4.09	6.90
8. Other fallow land	9.33	2.11	95.47	3.13	9.77
9. Net area sown	188.47	42.64	1429.38	46.92	13.19
Geographical Area	441.98	100.00	3046.81	100.00	14.51

As per the 1971 census, the per capita forest area works out to 0.40 hectare while as per the 1981 census, it is only 0.27 hectare. Thus, the per capita area under forests continued to shrink mainly owing to the sharp increase in the population. The forest area in the state is inadequate and its distribution is also not uniform in the various regions : Districts with very high forest density are Bastar (63.25 per cent), Balaghat(52.84 per cent), Surguja (49.43 per cent), Khandwa (45.48 per cent), Mandla (43.03 per cent), Sidhi (41.42 per cent) and Betul (40.54 per cent). Among these districts the per capita forest area varies from 0.42 hectare to 1.34 hectares. The districts with very little area under forests are Datia (9.73 per cent), Dhar (9.14 per cent), Rajgarh (2.42 per cent), Bhind (1.62 per cent), Ujjain (1.26 per cent) and Shajapur (0.47 per cent). The per capita forest area in these districts varies from 0.003 hect. to 0.06 hectare (Table 2.4).

Table 2.4 Districtwise per capit forest area in Madhya Pradesh

S. No.	District	Geographical Area '000Hect.	Forest Area '000 Hect	% of Forest Area to total Geographical Area	Population '000 (1981)	Percapita Forest Area in Hect.
1.	2.	3.	4.	5.	6.	7.
1.	Bastar	3906.0	2470.6	63.25	1842.9	1.34
2.	Balaghat	922.3	487.3	52.84	1147.8	0.42
3.	Surguja	2201.0	1088.0	49.43	1633.5	0.67
4.	Khandwa	1111.3	505.4	45.48	1153.6	0.44
5.	Mandla	1326.1	570.6	43.03	1037.4	4.55
6.	Sidhi	1039.2	430.4	41.42	990.5	0.43
7.	Betul	1007.8	408.6	40.54	925.4	0.44
8.	Bilaspur	1965.8	777.9	39.57	2953.4	0.26
9.	Raisen	848.6	335.4	39.52	710.5	0.47
10.	Shahdol	1386.0	530.6	38.26	1345.1	0.39
11.	Chhindwara	1184.9	445.0	37.56	1233.1	0.36
12.	Seoni	870.8	320.1	36.76	809.7	0.40
13.	Damoh	728.6	265.2	36.40	721.4	0.37
14.	Raipur	2127.3	774.3	36.40	3079.5	0.25
15.	Hoshangabad	999.3	361.0	36.13	1003.9	0.36
16.	Rajnandgaon	1109.7	391.9	35.32	1167.5	0.34
17.	Khargone	1348.5	470.4	34.88	1630.9	0.29
18.	Panna	703.4	237.3	33.74	540.0	0.44
19.	Raigarh	1298.3	403.1	31.05	1443.2	0.28
20.	Dewas	700.3	204.1	29.14	795.3	0.26
21.	Sagar	1023.2	292.2	28.56	1323.1	0.22
22.	Morena	1168.3	324.8	27.80	1303.2	0.25
23.	Narsinghpur	513.3	136.2	26.53	650.4	0.21

Contd.....

Table 2.4 continued.....

S No.	District	Geographical Area '000Hect.	Forest Area '000 Hect.	% of Forest Area to total Geographical Area	Population '000 (1981)	Percapita Forest Area in Hect.
1.	2.	3.	4.	5.	6.	7.
24.	Sehore	656.3	172.0	26.21	657.4	0.26
25.	Gwalior	521.9	108.9	20.87	1107.9	0.10
26.	Shivpuri	1017.3	187.9	18.47	865.9	0.22
27.	Satna	742.4	130.7	17.61	1153.4	0.11
28.	Jhabua	679.3	113.4	16.79	795.2	0.14
29.	Jabalpur	1012.4	159.9	15.79	2198.7	0.07
30.	Vidisha	730.2	105.1	14.39	783.1	0.13
31.	Bhopal	270.8	38.8	14.33	894.7	0.04
32.	Guna	1098.2	152.9	13.92	1002.0	0.15
33.	Indore	383.1	52.2	13.63	1409.5	0.04
34.	Tikamgarh	504.0	63.0	12.50	737.0	0.09
35.	Durg	870.8	99.9	11.47	1890.5	0.05
36.	Mandsaur	946.4	106.2	11.22	1263.4	0.08
37.	Rewa	628.8	65.1	10.35	1207.6	0.05
38.	Chhatarpur	863.1	86.4	10.01	886.7	0.10
39.	Datia	203.5	19.8	9.73	311.9	0.06
40.	Dhar	819.5	74.9	9.14	1057.5	0.07
41.	Ratlam	486.5	33.9	6.97	782.7	0.04
42.	Rajgarh	611.7	14.8	2.42	801.4	0.02
43.	Bhind	445.2	7.2	1.62	973.8	0.007
44.	Ujjain	611.6	7.7	1.26	1117.0	0.006
45.	Shajapur	617.8	2.9	0.47	840.2	0.003
Madhya Pradesh		44210.8	14034.0	31.74	52178.8	0.27

Dubey and Dwivedi (1979)* studied the demand and supply

Dubey and Dwivedi (1979)* studied the demand and supply

position of timber and firewood and classified the district of the state into deficit and surplus as under :-

1.	Seriously deficit districts (Where supply is only upto 50 per cent of the demand)	Rajgarh, Ujjain, Ratlam, Shajapur, Indore, Dhar, Bhind, Datia, Gwalior, Rewa and Satna (11)
2.	Moderately deficit districts (Where supply is up to 75% of the demand)	Bhopal, Vidisha, Mandsaur, Khargone, Jabalpur, Durg, Tikamgarh and Jhabua (8)
3.	Marginal districts (Where supply is approximately equal to the demand)	Hoshangabad, Sehore, Guna, Morena, Damoh, Shivpuri, Narsinghpur, Sagar, Raipur, Rajnandgaon, Chhatarpur, Khandwa, Bilaspur, Raisen and Dewas(15)
4.	Surplus districts	Panna, Betul, Raigarh, Surguja, Balaghat, Chhindwara, Mandla, Seoni, Bastar, Shahdol, and Sidhi (11)

Dubey and Dwivedi (1979)* studied the demand and supply

Dubey and Dwivedi (1979)* studied the demand and supply

position of timber and firewood and classified the district of

the state into deficit and surplus as under :-

1. Seriously deficit districts (Where supply is only upto 50 per cent of the demand) Rajgarh, Ujjain, Ratlam, Shajapur, Indore, Dhar, Bhind, Datia, Gwalior, Rewa and Satna (11)

2. Moderately deficit districts (Where supply is up to 75% of the demand) Bhopal, Vidisha, Mandsaur, Khargone, Jabalpur, Durg, Tikamgarh and Jhabua (8)

3. Marginal districts (Where supply is approximately equal to the demand) Hoshangabad, Sehore, Guna, Morena, Damoh, Shivpuri, Narsinghpur, Sagar, Raipur, Rajnandgaon, Chhatarpur, Khandwa, Bilaspur, Raisen and Dewas(15)

Dubey and Dwivedi (1979)* studied the demand and supply

4. Surplus districts Panna, Betul, Raigarh, Surguja, Balaghat, Chhindwara, Mandla,

* An approach for formulation of plantation policy in Madhya Pradesh by Dubey S.P. & Dwivedi A.P.

2.7.2 Agriculture

During 1981-82 an area of 207.73 lakh hectares was reported under agricultural uses and it included 4.37 per cent fallows including 2.42 per cent old fallows. An area of 188.41 lakh hectares or 42.62 per cent of the total geographical area was sown and an area of 29.15 lakh hectares or 6.59 per cent was sown more than once. Thus the gross cropped area of the state accounted for 217.56 lakh hectares or 49.21 per cent.

Area irrigated by different sources was reported 2421 thousand hectares covering 12.80 per cent of the net sown area. The sources of irrigation included canals, tanks, wells and other sources of irrigation. Among these canals irrigated the largest area of 1129.7 thousand hectares or 46.66 per cent followed by wells 1033.5 thousand hectares 42.77 per cent. There were 2333 canals, 49330 tanks, 806 reservoirs, 6876 tubewells and 9,40,126 irrigation wells in the state.

The cropping pattern of the state mainly thrived on the behaviour of rains particularly the monsoon. The kharif crops therefore are the main-stay of the agriculture and they covered nearly two-third of the food crops. During 1981-82 the food crops were sown on 18163.0 thousand hectares, of which an area of 13761.7 thousand hectares or 63.25 per cent was sown under kharif crops and 67994.8 thousand hectares or 36.72 per cent under rabi crops. The cropping pattern included cereals, millets, pulses, oilseeds, vegetables, spices and fruits, fibres, fodder crops and other crops.

Among these crops cereals and millets were sown on 13024.8 thousand hectares (59.87 per cent) pulses 4863.5 thousand hectares (22.35 per cent) oilseeds 2045.3 thousand hectares (9.40 per cent) sugarcane 38353 hectares, 5717 hectares under fruits, 174452 hectares

under vegetables, 117047 hectares under spices, 643310 hectares under fibre crops, 8587.20 hectares under fodder crops and 1270 hectares under tobacco. Paddy, wheat, jowar, maize, gram, urd, tur, groundnut, sesamum, soybean linseed, cotton, potato, appeared as important crops in the cropping pattern. However of the total gross cropped area of 21756.5 thousand hectares, total food crops covered 18163 thousand hectares or 83.48 per cent and 3593.5 thousand hectares or 16.52 per cent non-food crops (Table 2.5).

Wheat was largely sown under irrigation conditions while other crops generally irrigated included paddy, gram, cotton, sugarcane, vegetables and spices.

.....

Table 2.5 Main features of Cropping Pattern

Particulars of crops		Area (thousand hectares)	Percentage
1.	Net sown area	18841.0	86.60
2.	Area sown more than once	2915.5	13.40
3.	Gross cropped area	21756.5	100.00
4.	Classification of crops		
	a) Kharif	13761.7	63.25
	b) Rabi	7994.8	36.75
	i) Food crops	18163.0	83.48
	ii) Non food crops	3593.5	16.52
	a) Cereals & Millets	13024.8	59.87
	b) Pulses	4863.5	22.35
	c) Oilseeds	2045.3	9.40
	d) Fruits, Vegetables & spices	292.0	1.34
	e) Fibre crops	614.0	2.82
	f) Fodder crops	859.0	3.95
5.	Area under main crops		
	1) Paddy	4849.6	22.29
	2) Wheat	3305.8	15.19
	3) Jowar	2252.0	10.35
	4) Maize	788.2	3.62
	5) Gram	2028.9	9.33
	6) Urd	754.6	3.47
	7) Tur	533.5	2.46
	8) Teora	703.7	3.23
	9) Linseed	571.9	2.63
	10) Cotton	613.6	2.82

C H A P T E R III

SOCIAL FORESTRY IN MADHYA PRADESH

3.1 Introduction

Social forestry is a new concept under which the concerned government department and the villagers circumscribing these forests to be created, work in a spirit of mutual cooperation and common responsibilities. It is a move towards creating tree consciousness amongst the villagers. Restoration and improvement of the ecological balance is one of its important objectives. The programme of social forestry mainly aims to meet the firewood and fodder requirements of rural families and to help to generate employment potential in the rural areas. The plantations are to be undertaken on all available government and non-government land along-roadsides, canal banks, in the compounds of government and semi-government buildings, on field bunds, and private lands.

Promotion of social forestry received due importance in the sixth five year plan and also under the new 20 Point Programme. Government of India earmarked 100 crores of rupee to promote social forestry during 1980-85 and 101 districts were selected for implementation of the pilot projects in the country. In Madhya Pradesh, the Centrally Sponsored Rural Fuelwood Plantation Programme is implemented in ten districts viz. Rewa, Ratlam, Indore, Bhopal, Gwalior, Jhabua, Seoni, Jabalpur, Bilaspur and Raipur.

3.2 An Approach to Social Forestry

Widening gap between supply and demand, the changing socio-political spectrum, the growing realization to meet the social needs of the populace and the ill effects of the ecological degradation as a result of rapid deforestation, have brought into sharp focus the administrators' approach which is reflected in the sixth five

year plan of the State Forest Department, which has recognised the importance of making forest development a programme of the masses. The programme is christened as 'Social Forestry' Programme means management of waste lands, blank and other idle lands with the primary objectives of meeting the demands for :

(i) Fuelwood supply to the rural area and the diversion of cow dung for agricultural production,

(ii) Small timber supply,

(iii) Fodder supply,

(iv) Protection of agricultural fields against winds, and

(v) Recreational needs

Social forestry programmes are channelized under schemes suited to specific objectives for the achievement of the above objectives. The schemes which are currently being looked after by Social Forestry Wing of the Forest Department may be enumerated as under :

(i) mixed forestry on waste lands and village community land as panchvan's;

(ii) plantations along roads and canals;

(iii) environmental/recreational forestry;

(iv) van mahotsava, and

(v) hitgrahi scheme

3.3 Initial Administrative set-up of Social Forestry :

Formerly social forestry programme was carriedout by the regular forest division in addition to its regular programmes. The Forest Development Corporation also participated in the programme by taking plantation works on some specific areas. In view of the increasing demands and responsibilities, the State

Government created a separate directorate for social forestry with a Chief Conservator of Forests as its director. The administrative set-up of directorate is as follows :

Set-up of Directorate of Social Forestry

S.No.	Designation	No.of posts	Rank
1.	Director	1	Chief Conservator of Forests
2.	Additional Director	2	Additional Chief Conservator of Forests
3.	Joint Director(Planning)	1	Conservator of Forests
4.	Joint Director (Monitoring & Evaluation)	1	Conservator of Forests
5.	Joint Director(Training)	1	Conservator of Forests
6.	Joint Director(Research)	1	Conservator of Forests
7.	Evaluation Officer	1	Deputy Conservator of Forests
8.	Silviculturist	1	Deputy Conservator of Forests
9.	Economist	1	Deputy Conservator of Forests
10.	Agrostologist	1	Equal to Joint Directors (State)
11.	Rural Sociologist	1	
12.	Publicity Officer	1	

3.4 Progress of Social Forestry Programmes :

The State has 3,27,900 square kilometers area under village community land. The village community has customary rights on such waste lands. These waste lands are not serviced by any scientific management except the protection they have been receiving through "Dont's" (normally weak and ineffective) laid down in the Land Revenue Code. The population pressure which is always increasing, had devastating effects and where forests existed they were reduced to shambles.

The immediate problem was how to make this barren and denuded land more productive so as to meet the local demands alongwith maintenance of an ecological balance. With this object in view the various schemes of social forestry have been launched in the state.

3.4.1 Van Mahotsava :

This is the oldest tree planting programme. Under this programme 2 villages were selected in each block where atleast 4.05 hectares of land was available for afforestation. The forest department raised seedlings and distributed to people during Van Mahotsava every year since 1976 and by the end of 1983, it has supplied 1,32,28,768 plants under this programme at cost of Rs.41,79,431 (Table 3.1)

Table 3.1 The yearwise distribution of plants under Van Mahotsava

Year	Plants distributed	Expenditure
1976	71,745	N.A.
1977	17,663	N.A.
1978	13,15,413	1,42,608
1979	20,17,438	2,51,236
1980	23,73,991	3,87,572
1981	20,96,186	4,98,250
1982	22,56,802	15,91,641
1983	30,79,530	13,08,124
Total	1,32,28,768	41,79,431

3.4.2 Panchvan Scheme

Social forestry plantation under this scheme commenced in 1976-77. Afforestation is done on denuded village waste lands and degraded government forests nearer to the village.

In order to rationalize the Panchvan programme the following annual physical targets were fixed (Table 3.2)

Table 3.2 Targets made under Panchvan Scheme in the State

% of Forest Area in the district	Annual plantation target in each district (Hect.)
Up to 15%	350
16% to 32%	200
33% and above	135

In the beginning no separate staff was sanctioned and the territorial staff was looking after this work also but now it has come under social forestry. It is envisaged that the villagers should be permitted to cut grass free of cost from panchvan raised in revenue or panchayat lands with due permission of grampanchayat. The policy regarding management of panchvan by panchayat and the terms and conditions under which such plantations will be handed over to the panchayats for maintenance, is not yet decided but it is under the active consideration of the government. From 1976 to 1984, plantation on community land had covered 56,990 hectares and along roadsides 300 Road Kms-with expenditure of Rs.13,31,67,557. Yearwise break up had indicated a progressive trend (Table 3.3).

Table 3.3 Yearwise progress of Panchvan Schemes

Year	Area planted (in hectares)	Roadside plantations (Road kms)	Allotment (Rs.)	Expenditure incurred (Rs.)
1976-77	92	-	1,22,00,000	3,37,61,036
1977-78	8850	129	1,12,70,000	1,07,83,512
1978-79	8860	142	1,11,70,000	96,09,430
1979-80	9180	29	1,20,00,000	1,26,86,820
1980-81	9270	-	1,40,00,000	1,11,82,836
1981-82	8518	-	1,61,30,000	1,86,62,096
1982-83	7160	-	2,09,84,000	1,63,60,973
1983-84	5060	-	2,21,70,000	2,01,20,854
Total	56990	300	11,99,24,000	13,31,67,557

3.4.3 Project Supported by USAID

Under this scheme 29 districts have been selected where the demand of forest products exceeds the supply. In addition, a separate Research and Training Institute will be established. During 1981-82 districts selected were Ratlam, Dhar and Shivpuri. During 1982-83 the scheme was extended to 1 more district and 17 districts were added to it in 1983-84. It was proposed that in each district, in the initial year, 354 hectares will be brought under afforestation, 6 hectares under roadside plantation and 90 hectares under fodder plantation. In every subsequent year, the area under each of the above programme would be 590 hectares, 10 hectares and 150 hectares respectively. The yearwise progress of the scheme has been quite encouraging (Table 3.4).

Table 3.4 Yearwise progress of the USAID Scheme

Year	Targets (hect.)	Achievements (hect.)	Fund Allocation Heads	Fund used (Rs.)
1981-82	225 Pilot 130 Research	225 Pilot 110 Research	Fund allocated in general plan 56-313	21,19,000
1982-83	75 Pilot 1200 Research 1350 Regular	95 Pilot 1283 Research 1350 Regular	Fund allocated under NREP & Tribal Sub-plan	1,98,40,000
1983-84	8100 prepared for 83 rains 8100 Plantation 14250 prepared for 84 rains	N.A.	--	2,14,40,000

3.4.4 Roadside Plantations :

From 1979-80 roadside plantation was given a modest start. Initially it was restricted to 10 selected districts viz. Mandsaur, Indore, Ujjain, Dewas, Sehore, Bhopal, Gwalior, Bilaspur, Raipur, Rewa. Subsequently it became an important component of social forestry operations all over the state and now this was being carried on in the following 30 districts : Bastar, Raisen, Sehore, Raigarh, Morena, Shivpuri, Guna, Khandwa, Chhindwara, Seoni, Bhopal, Bilaspur, Bhind, Gwalior, Indore, Rewa, Satna, Damoh, Dewas, Mandsaur, Ratlam, Ujjain, Raipur, Vidisha, Surguja, Jabalpur, Narsinghpur, Dhar, Mandla and Khargone.

The plantations were raised under different budget heads like N.R.E.P., D.P.A.P., Scarcity Works and under non-plan head 10-313. Yearwise plantation and expenditure (Roadside under 10-313 Non-plan) maintained a progressive trend from 1979 to 1984 (Table 3.5).

Table 3.5 Achievement under Roadside Plantations

Year	Achievements (R.Kms.)	Expenditure (Rs.)
1979 (Rainy Season)	200	29,03,821
1980 (Rainy Season)	216	75,96,785
1981 (Rainy Season)	1522	90,05,000
1982 (Rainy Season)	1240	85,31,932
1983 (Rainy Season)	1200	91,64,172
1984 (Rainy Season)	1200	N.A.
Total	5578	3,72,01,710

At present in all districts the plantations on roadsides are raised under this programme. In 1983-84 work was also done under the rural employment programme.

3.4.5. Canal-bank Plantation

Due to continued efforts of Forest Department it was agreed in principle by the Irrigation Department that funds will be earmarked and provided to Forest Department from irrigation budget for raising canal bank plantations. It was also decided that much important role than what had been assigned hitherto, would be given to Forest Department.

A regular afforestation division has been created under Chambal Ayacut Development Authority and similar proposal is awaiting clearance for Tawa Ayacut. These plantations are to be raised in Raisen, Vidisha, Bilaspur, Morena, Datia, Hoshangabad and Khandwa districts.

3.4.6 Environmental Forestry

Environmental Forestry is one of the activities of social forestry. Under this scheme recreation spots had been created at Indore, Bhopal, Raipur, Ambikapur so as to create a healthy environment. In 1982-83 plantations were raised on 740 hectares land. For 1983-84, Rs.43 lakh were made available for environmental forestry plantation in some cities. The cities covered were Jabalpur, Raipur, Indore, Bhopal, Gwalior, Bilaspur, Rewa, Ambikapur, Sagar and Narsinghpur. This scheme had now been extended to the entire state. All districts headquarter towns and some other important towns of the various districts of the state had been included under this scheme from the year 1984-85. The allotment for 1983-84 was Rs.43,00,000 which was increased to Rs.1,40,00,000 in 1984-85.(Table 3.6)

Table 3.6 Yearwise fund allotment and expenditure under Environmental Forestry

Year	Allotment (Rs.)	Expenditure (Rs.)
1983-84	43,00,000	31,10,444
1984-85	1,40,00,000	N.A.

3.4.7 Afforestation of deforested land :

This programme is also in operation since 1977-78. In the current year the programme will be taken up in 10 districts viz. Rajgarh, West Nimar, Gwalior, Datia, Shivpuri, Rewa, Dhar, Raisen, Ujjain and Mandsaur. From 77-78 to 82-83 this scheme had a target to do afforestation on 12,642 hectares and was alloted Rs.2,76,74,100. Against this, Afforestation work was completed on 11,784 hectares or 93.21 per cent and an amount of Rs.2,21,19,585 was spent for this purposes (Table 3.7).

Table 3.7 Yearwise Progress of Afforestation Scheme

Year	Targets (Hect.)	Achievements (Hect.)	Fund Allocated (Rs.)	Fund Used (Rs.)
1977-78	670	670	24,70,000	15,51,297
1978-79	2500	1579	45,00,100	36,71,655
1979-80	2500	2998	71,07,000	61,68,506
1980-81	3150	3115	59,35,000	43,93,359
1981-82	2622	2222	55,62,000	32,34,768
1982-83	1200	1200	21,00,000	N.A.
Total	12642	11784	2,76,74,100	2,21,19,585

3.4.8 Plantation of Mixed Forests

Under this programme 2079 hectares area was to be prepared for afforestation, as against this, plantation was done on 2474 hectares, more than the target during the year 1983-84. The scheme is implemented in Rajgarh and Bastar (Kanker) districts. In 1983-84, an area of 3077 hectares was also prepared for next years plantation (Table 3.8).

Table 3.8 Yearwise progress of the Mixed Forests Scheme

Year	Targets (Hect.)	Achievements (hect.)	Fund allocated (Rs.)	Fund used (Rs.)
1977-78	615	617	14,50,000	7,31,100
1978-79	1000	442	13,90,100	8,65,594
1979-80	1000	1013	20,60,000	17,13,389
1980-81	1200	1222	23,54,700	15,99,538
1981-82	914	697	20,21,000	12,58,399
1982-83	893	893	6,65,000	6,73,989
1983-84	2079	2474 + 3077 Preparation	93,00,000	82,90,000
Total	7711	7358	1,92,40,800	1,51,32,009

3.4.9 Tribal Sub-Plan

For the formulation of social forestry projects in tribal sub-plan areas, three districts viz. Bilaspur, Ratlam and Mandla were taken up. The survey work in Ratlam, Bilaspur and Mandla districts had been completed. The area available for plantation is reported to be 16175, 27063 and 45390 hectares respectively in these three districts (Table 3.9).

Table 3.9 Land available for Social Forestry in Tribal Sub-plan Areas

District	Development blocks (No.)	Total villages in the district (No.)	Land available for Social Forestry (Hect.)
Bilaspur	3	397	16175
Ratlam	6	1077	27063
Mandla	16	2187	45390
Total	25	3661	88628

The progress made under the tribal sub-plan exceeded the targets both physically and financially during 80-81 and 81-82 while a pace was maintained during later two years, (82-83 and 83-84). During these four years (80-83), plantations were completed on 21,813 hectares and an amount of Rs.3,03,85,000 was incurred on them by the end of 1983-84(Table 3.10).

Table 3.10 Coverage of Social Forestry under Tribal Sub-plan

Year	Target (Hect.)	Achievement (Hect.)	Fund Allocated (Rs.)	Fund Used. (Rs.)
1980-81	5520	5600	60,00,000	72,03,000
1981-82	7778	8213	64,24,000	65,07,000
1982-83	8000	8000	64,00,000	60,00,000
1983-84	N.A.	N.A.	90,00,000	1,06,75,000
Total	21,298	21,813	2,78,24,000	3,03,85,000

3.4.10 Integrated Rural Development Programme

Under this scheme small and marginal farmers were supplied seedlings free of cost. This programme was initiated in 1980-81. During this year 10,000 plants were to be raised and 57,975 plants were actually grown. For this purpose 37 departmental and 16 private nurseries were raised. Under this scheme an area of 5000 hectares was to be covered on farmers' fields in 1981-82 but it could be done on 3273 hectares area (Table 3.11).

Table 3.11 Progress under Integrated Rural Development Programme

Year	Targets	Achievements	Fund Allocated (Rs.)	Fund Used (Rs.)
1980-81	10,000 Plants	57,975 Plants 37 Departmental Nurseries 16 Private Nurseries	50,00,000	2,64,00,000
1981-82	5,000 Hect.	3273 Hect.	1,28,84,930	18,67,483

3.4.11 DPAP Project

The Government of Madhya Pradesh has decided that of the total amount sanctioned for DPAP, 35% would be disbursed to the Forest Department. In Dhar, Jhabua, Betul and Sidhi, the work was done by Forest Development Corporation from April 1980. It included both field plantations and roadside plantations. For this purpose from 1980-81 to 1982-83 the Corporation was given Rs.6,36,23,000 but it spent Rs.6,58,39,000 more than the allotment for completing on 20,667 hectares area and on 274 R.Kms. against the target of plantation on 21,400 hectares and 342 R.Kms. (Table 3.12).

Table 3.12 Progress under DPAP Scheme

Year	Targets	Achievements	Fund Allocated (Rs.)	Fund Used (Rs.)
1980-81	3700 Hect. 37 R.Kms.	4710 Hect. 52 R.Kms.	1,89,000	1,21,80,000
1981-82	5900 Hect. 84 R.Kms.	4653 Hect. 70 R.Kms.	1,86,80,000	1,47,66,000
1982-83	5900 Hect. 126 R.Kms.	5776 Hect. 86 R.Kms.	1,89,88,000	2,07,57,000
1983-84	5900 Hect. 96 R.Kms.	5528 Hect. 66 R.Kms.	2,57,66,000	1,81,36,000
Total	21400 Hect. 342 R.Kms.	20667 Hect. 274 R.Kms.	6,36,23,000	6,58,39,000

3.4.12 Centrally Sponsored Scheme for Rural Fuelwood Plantation

This scheme was started in ten districts namely Rewa, Ratlam, Indore, Bhopal, Gwalior, Jhabua, Seoni, Jabalpur, Bilaspur and Raipur from 1982-83. Details of progress made till 1983-84 are given in table 3.13.

Table 3.13 Yearwise progress of the Centrally Sponsored Scheme for Rural Fuel-wood Plantation

Year	Nature of work	Targets	Achievements	Fund Allocated (Rs.)	Fund Used (Rs.)
1982-83					
A. Plantation					
	1. Plantation done in 1982 rainy season and maintenance	10,000 Hect.	10,695 Hect.	1,00,00,000	1,10,40,000
	2. Preparation of area to be planted in 1983 rainy season	12,000 Hect.	12,135 Hect.	1,00,00,000	1,88,95,000
B. Plant Distribution					
	1. Cost of polythene bags, filling of polythene bags, cost of manure, rearing, distribution including transport of plants	1,60,00,000 Plants	2,86,49,000 Plants	40,00,000	58,32,000
	2. Advance work preparation of nursery, cost of manure, cost of seeds, planting and watering	2,08,00,000 Plants	2,10,00,000 Plants	52,00,000	38,25,000
1983-84					
A. Plantation					
	1. Plantation done in 1983 rainy season and maintenance	12,135 Hect.	12,135 Hect.	2,11,46,000	1,91,24,000
	2. Plantation of area to be planted in 1984 rainy season	7,620 Hect.	Preparation started	20,77,500	92,22,000
B. Plant Distribution					
	Cost of polythene bags, filling of polythene bags, cost of manure, rearing, distribution including transport of plants	2,40,00,000 Plants	2,97,50,000 Plants	74,32,300	74,32,300

3.4.13 Ford Foundation Social Forestry Project

With the aid from the Ford Foundation a scheme was sanctioned to prepare social forestry project reports of Jhabua, Dhar, Bilaspur and Raipur districts. This was a four years project with a total outlay of Rs.40 lakh and out of this, two-third amount was received as a grant from the Ford Foundation. This project came into operation from 17th August 1978 and was completed on 31.3.83. The work involved survey of all the villages in these districts for collecting data on availability of land for social forestry and mapping. The survey work had been completed in all the districts and the mapping was in progress till 1984-85. In these districts a total of 3,19,576 hectares of land was reported available for forestry. Details of fund allotment and expenditure are given in table 3.14.

Table 3.14 Allotment and utilization of funds under Ford Foundation Social Forestry Project

Year	Fund Allocated (Rs.)	Expenditure (Rs.)
1978-79	13,00,000	5,83,384
1979-80	13,00,000	10,40,034
1980-81	13,00,000	11,85,323
1981-82	13,00,000	14,23,695
1982-83	N.A.	11,68,662
Total	52,00,000	54,01,098

3.4.14 Hitgrahi Scheme

This scheme had been taken up from 1983-84 in 21 districts namely Mandsaur, Ratlam, Jhabua, Dhar, Khargone, Shajapur, Raigarh, Guna, Datia, Bhind, Gwalior, Sidhi, Satna, Rewa, Shahdol, Surguja, Rajgarh, Bastar, Narsinghpur, Jabalpur and Khandwa. Under this scheme 60 beneficiaries per district will be selected from the landless, marginal and small farmers, preferably from scheduled castes and scheduled tribes.

Initially 10 hectares land will be provided to each beneficiary to afforest the area in 10 years at the rate of one hectare per year. The cost of afforestation will be met by the social forestry department, but the after care viz. weeding, hoeing and protection will be the responsibility of the beneficiaries. Each beneficiary will also be paid Rs. 50 -per month for a period of 5 years. Hitgrahi shall have complete rights over the forest produce but shall have no right over the forest land which shall remain the property of Forest Department.

Under this scheme the total area to be planted will be 12,600 hectares in 21 districts in 10 years. The total number of beneficiaries will be 1260 (Table 3.15). It is expected that a beneficiary will be able to get a net earnings of Rs.82,000 over a period of 30 years after the completion of plantation on 10 hectares.

Table 3.15 Progress under Hitgrahi Scheme (Beneficiaries)

Year	No.of Hitgrahis		Allotment (Rs.)	Expenditure (Rs.)
	Target	Benefitted		
1983-84	1260	809	50,00,000	30,71,600
1984-85	1711	N.A.	55,60,000	N.A.

Primarily this scheme is a tree farming project on tree less, eroded and refractory areas where normally agriculture is not possible. Tree farming will be an alternate occupation to provide livelihood to landless villagers of economically weaker section.

3.4.15 Public Contact Scheme

Social Forestry is a people's programme. As such, it is essential to create an awareness amongst the people, including children, about the advantages of trees and forests so that their spontaneous cooperation is forth coming in planting and protection of trees and forests. Today there is a fear in villagers mind that whatever plantations are being done on community or on private land will be taken over by the government. To bring forestry nearer to the people, it is necessary to have extensive public contact programme and for this purpose a small unit was created in 1981-82.

3.4.16 Plantations by Panchayats in Silver Jubilee Villages

The state had celebrated 25 years of its formation. During this year in each district a village has been selected as "Silver Jubilee Village". It is proposed that a detailed survey be carried out in these villages to know the demand of the villagers of the different forest products. Plantation will be done by the Forest Department and the subsequent maintenance will be done by the panchayat.

3.5 Resume

Madhya Pradesh is primarily a backward state both socially and economically. It is known to the outside world through its backward tribal communities, rainfed agriculture, low productivity,

poor infrastructure and degraded forests. State has a large area under forests but 50 per cent of it is classified as protected forest and only 60 per cent of the protected forest has been demarcated and covered by the working plan. Remaining forest area known as "orange area" is by and large degraded and is without adequate tree cover to meet even the nistar needs of the villagers.

In 1974, the state government got prepared a daignostic report from a senior forest officer to draw proposals for social forestry. This report contained 10 major recommendations for social forestry organisation in the state. It justified social forestry on revenue, ecological and employment grounds. Linkage between tribal welfare and social forestry received much emphasis. A data based regional planning of social forestry was suggested to cater the needs of the villagers and the ecology at large.

Like other states Vanmahotasava has been the annual feature of the social forestry. Further a set of centrally sponsored schemes like reforestation of degraded forests, mixed plantations, roadside plantations, panchvan and hitgrahi schemes are being launched in the state. Assistance of Ford Foundation, USAID were also taken to develop the social forestry in a systematic manner for the benefit of the villagers to serve their needs of wooden-fuel, timber and fodder. Main emphasis of social forestry is to make the people tree conscious.

.....

C H A P T E R IV

BACKGROUND OF SAMPLE DISTRICTS

4.1 District Dhar

4.1.1 Location

Dhar district is situated in South-west corner of Madhya Pradesh. It lies between latitudes $22^{\circ}01'N$ and $23^{\circ}10'N$ and longitudes $74^{\circ}28'E$ and $75^{\circ}42'E$. It is a part of Indore division and is located 60 Kms. towards south-west of Indore city. The district is bounded on the east by Indore, on the south by Khargone, on the west by Jhabua and on the north by Ratlam and Ujjain districts of the State. District is well known to the outside world through the Mandav fort which is atteracting a large number of tourists every year.

4.1.2 Area and Population

Dhar district occupied an area of 8158 sq.Km. and had a population of 10,57,469 persons (1981). The density of population per sq.km. was 130. The population included 52.06 per cent scheduled tribes and 6.95 per cent scheduled castes. The scheduled tribes men generally belong to Bhil tribe and they mainly resided among the forests. The literacy was reported 20.21 per cent, lower than the state literacy figure of 27.82 per cent. There are 1484 villages which are put under 5 tahsils for administrative purposes and for development purposes they are covered by the 13 development blocks. In addition, there are 3 Integrated Tribal Area Development Projects in the district for the specific development of tribal people. Growth rate of population during last decade had been equal to the state growth rate.

4.1.3 Physical Features

The district has two clearly marked natural divisions : (i) The Malwa Plateau Tract and (ii) the Nimar Tract. These two natural divisions are separated by the great Vindhyan scrap. The Malwa tract opens out to wide rolling plains of rich black soil and luxuriant crops, rich flat topped hills which are interspersed. In Nimar tract the scene changes, hills succeed one another but these have little vegetation on them and appear denuded.

4.1.4 Climate

The climate in plateau and hilly regions differ materially. Whereas in the plateau it is equitable and mild and during the summer the nights are generally pleasant, in hilly regions it is oppressive and in the cold season the weather is mild. On the plateau the winter season lasts from November to January and the temperature is known to gone down to forties. It is much hotter in Nimar side of the district. The summer commences from March and lasts up to June. The temperature is known to touch 47°C.

The rainfall in Kukshi and Manawar tahsils averages about 630 mms. but in Sardarpur, Dhar and Badnawar tahsils it is little more. The average for the district is 825.9 mm.

4.1.5 Land Utilisation

The geographical area of the district is 819.5 thousand hectares, of this, an area of 74.9 thousand hectares (9.14 per cent) was under forests. Permanent pastures and other grazing land formed 7.29 per cent of the geographical area. The area under agricultural uses accounted for 62.21 per cent including 60.35 per cent as net sown area.

Dhar district had 37.79 per cent of the geographical area under non-agricultural uses, of which 20.93 per cent reported under permanent pastures and uncultivable land can be brought under social forestry. In the district there is no area under small trees and groves (Table 4.1).

4.1.6 Forests

Out of the total 14034.0 thousand hectares forest area of the State, Dhar district shares 74.9 thousand hectares or 5.33 per cent. As per the 1981 census, the per capita forest area was reported 0.07 hectares as against the state figure of 0.27 hectares.

The forests in the district are mostly of (i) Dry teak type (ii) Dry deciduous mixed forest and are classified as (a) reserved forest (b) protected forests.

4.1.7 Agriculture

Area under agricultural uses was reported 508.8 thousand hectares which included 15.2 thousand hectares or 1.86 per cent under fallows. An area of 494.6 thousand hectares or 60.35 per cent was actually sown and of this, 82.7 thousand hectares was sown more than once. Thus the district had gross cropped area of 577.3 thousand hectares. Net irrigated area was 61.7 thousand hectares, of which, 0.2 thousand hectares was irrigated more than once. Irrigation sources were meagre and included 70 canals, 183 tanks, 1541 tubewells, 37404 irrigation wells and one reservoir.

Agriculture of the district thrived on substantive type of cropping pattern based on mainly on kharief crops. In the cropping pattern food crops covered 394.9 thousand hectares or 68.40 per cent out of the gross cropped area of 577.3 thousand hectares.

The kharief crop preponderated and covered 400.[illegible] thousand hectares or 69.41 per cent. Rabi crops were sown mainly under irrigated conditions and occupied 176.6 thousand hectares or 30.59 per cent of the gross-cropped area.

Cropping pattern of the district included cereals and millets, pulses, [illegible]lseeds, vegetables and spices including fruits and fibre crops and these covered 40.48, 25.88, 13.89, 1.58, 10.60 per cent area respectively.

The important crops returned from the district were wheat, jowar, maize, cotton, grams, urd, groundnut, linseed and soybean (Table 4.2).

Table 4.1 Land use classification of sample districts(1981-82)

Particulars	Dhar district		Raipur district	
	Area (thousand hectares)	%	Area (thousand hectares)	%
1. Forests	74.9	9.14	774.3	36.40
2. Land put to non-agricul-agricultural uses	40.9	4.99	129.3	6.03
3. Barren and uncultivable land land	111.8	13.64	21.8	1.02
4. Permanent pastures and other grazing lands	59.7	7.29	150.7	7.08
5. Land under misc.trees, crops and groves	-	-	2.1	0.10
6. Culturable waste	22.4	2.93	48.4	2.28
7. Current fallows	7.1	0.87	35.9	1.69
8. Other fallow lands	8.1	0.99	38.9	1.83
9. Net area sown	494.6	60.35	925.9	43.52
Geographical Area	819.5	100.00	2127.3	100.00

Table 4.2 Main features of cropping pattern in sample districts

Particulars of crops	Dhar district		Raipur district	
	Area (thousand hectares)	%	Area (thousand hectares)	%
1. Net area sown	494.6	85.67	925.9	74.83
2. Area sown more than once	82.7	14.33	311.5	25.17
3. Gross cropped area	577.3	100.00	1237.4	100.00
4. Classification of crops				
a. Kharief	400.7	69.4	898.8	72.64
b. Rabi	176.6	30.59	338.6	27.36
a. Food crops	394.9	68.40	1172.2	94.73
b. Non-food crops	182.4	31.60	65.2	5.27
a. Cereals & millets	233.7	40.48	881.1	71.21
b. Pulses	149.4	25.88	276.5	22.35
c. Oilseeds	80.2	13.89	63.3	5.12
d. Fruits, vegetables & spices	9.1	1.58	14.1	1.14
e. Fibre crops	61.2	10.60	0.01	Neg.
f. Fodder crops	39.1	6.77	0.2	0.02
5. Area under main crops				
1. Paddy	12.0	2.08	799.6	64.62
2. Wheat	75.7	13.1	17.1	1.38
3. Jowar	73.7	12.77	0.6	0.05
4. Maize	62.1	10.76	0.8	0.06
5. Gram	60.3	10.45	4.6	0.37
6. Urd	43.2	7.48	44.1	3.56
7. Tur	10.6	1.84	2.9	0.23
8. Lakh (Teora)	7.4	1.28	206.0	16.65
9. Linseed	23.1	4.00	49.1	3.97
10. Cotton	61.2	10.60	0.01	Neg.

4.2 District Raipur

4.2.1 Location

Raipur district is located in the south-eastern corner of Madhya Pradesh. It falls between latitudes $19^{\circ}50'N$ and $21^{\circ}53'N$ and longitudes $81^{\circ}25'E$ and $83^{\circ}38'E$. In the north river Mahanadi separates this district from Bilaspur district. River Kharun forms the western boundary and separates it from Durg district. Raigarh district is to the north-east of Raipur and in the south is Bastar district. On the east and south-east lies the state of Orissa.

4.2.2 Area and Population

Raipur district occupied an area of 21,274 sq.km. and had a population of 30,79,476 persons who reside in 3842 villages and 8 towns (1981). The density of population per sq.km. is 145. The population included 18.56 per cent scheduled tribes and 13.77 per cent scheduled castes. Raipur district population had larger proportion of females numbering 15,44,122 as against 15,33,606 males which means 1007 females per 1000 males. The literacy percentage in the district is reported 30.59 per cent larger than the state figure. During last decade the district had a growth rate of 17.76 per cent lower than the state figure of 25.15 per cent. District population included 14,06,143 workers covering 45.66 per cent of the total population. Among the workers 6,98,602 were cultivators or 49.68 per cent, 4,22,714 agricultural labourers or 30.06 per cent and remaining 2,84,827 workers or 20.26 per cent were engaged in other trades.

District had been divided into 5 tahsils for administrative purposes. It had 24 development blocks to cherish the present development programme. One Integrated Tribal Area Development Project is also operating in the district.

4.2.3 Physical Features

The district has a gentle slope towards north-east. The hills are confined to the south-eastern part of the district. The important river is Mahanadi and it cuts across the district in north-east.

4.2.4 Climate

The climate of Raipur district is, in general, warm and humid. Poorly wooded areas, the closeness of ricks to the surface and the red gravelly soil make the heat in summer excessive in the northern and central parts of the district. The areas in the south and east are not as hot because of sal forests. Winter months are not very cold in the plains but the forest areas are much cooler. Maximum and minimum temperatures recorded were 41.7^{o} (May) and the 12.8^{o}C (December).

The district falls in the heavy rainfall belt with an average annual rainfall of 1375 mm. In the southern and south-eastern parts of the district the rainfall is usually copious owing to the neighbouring forests. The tract around Simga often suffers from scarcity of rainfall. Maximum rains fall during rainy season between mid-June to mid-September and it may have some rains during winter in December and January.

4.2.5 Land Utilization

The geographical area of the district is 2127.3 thousand hectares, of this, an area of 774.3 thousand hectares (36.40 per cent) was under forests. Permanent pastures and other grazing land formed 7.08 per cent of the geographical area. The net sown area accounted for 43.53 per cent (Table 4.2)

In short, Raipur district had 52.96 per cent of the total geographical area under non-agricultural uses including 8.20 per cent under permanent pastures, uncultivated land and small trees which can be very well utilized for social forestry programmes.

4.2.6 Forests

Out of the total 14034.0 thousand hectares forest area of the State, Raipur district shares 774.3 thousand hectares (5.52 per cent). As per the 1981 census, the per capita forest area was reported 0.25 hectares as against the state figure of 0.27 hectares.

The eastern, south-eastern and southern regions of the district contain good forests. The central, north-western and extreme south-eastern regions of the district are competely denuded of trees.

4.2.7 Agriculture

Agriculturally Raipur is said to be basement of the rice bowl area. It is one of the district selected for the intensive cultivation of paddy. It is mainly a paddy growing district.

Area under agricultural uses was 1000.7 thousand hectares and it covered 47.04 per cent of the total geographical area of the district. It included 74.8 thousand hectares or 3.52 per cent under fallows and an area of 925.9 thousand hectares or 43.52 per cent was used for raising the crops. Double cropped area accounted for 311.5 thousand hectares or 25.17 per cent of the net sown area. The gross cropped area was reported 1237.4 thousand hectares of which, 1172.2 thousand hectares or 94.73 per cent was sown under food crops. The non-food crops were sown on a meagre area and covered only 65.2 thousand hectares.

District had better resources of irrigation. However its agriculture mainly depended on the behaviour of rains. Area irrigated in the district was reported 296.9 thousand hectares which means nearly one-third of the net area sown was irrigated. Irrigation sources reported in the district included 55 canals, 12737 tanks, 22 reservoirs, 314 tubewells and 53412 irrigation wells. Canals were more important and irrigated 253.4 thousand hectares or 85.35 per cent of the total irrigated area.

Like other districts of the state the kharief crops formed the backbone of agriculture in Raipur district. These crops were sown on 898.8 thousand hectares and covered nearly three-fourth of the gross cropped area. The rabi crops were grown on 338.6 thousand hectares or 27.36 per cent area.

Cropping pattern of the district mainly included paddy which was sown on 799.6 thousand hectares and covered 64.62 per cent of the gross cropped area. Lakh (Teora) was next to be sown on 206.0 thousand hectares. Kodo, kutki, linseed, urd, wheat, groundndnut and gram were also sown on a considerable area (Table 4.2).

.....

C H A P T E R- V

SOCIAL FORESTRY PROGRAMMES IN THE SAMPLE DISTRICTS

5.1 Administrative set up

Under the USAID scheme of social forestry, Dhar district become social forestry division in the first phase during July 1982 and Raipur district during the third phase in August 1983. Conservator of forests is the overall incharge of both, regular forests and the social forestry in the Raipur district till a social forestry circle becomes operational with headquarters at Raipur. Conservator, social forestry covering Dhar district is separate and he is posted at Indore. So as to assist the conservator, directorate of social forestry has provided staff at the district level which included Deputy Director, Assistant Director, Van Vistar Adhikaris, Van Vistar Sahayaks, Van Sevaks and Office staff.

Table 5.1 Staff of social forestry at the district level

Designationa	No.of Posts	
	Dhar district	Raipur district
1. Deputy Director	1	1
2. Assistant Director	1	1
3. Van Vistar Adhikari	6	6
4. Van Vistar Sahayak	13	13
5. Van Sevak	42	42
Tctal	63	63

Deputy Director and Assistant Director are posted at the district place to direct, to guide and to supervise the work of social forestry. For the speedy development of social forestry five forest extension units have been created in each sample district. Each forest extension unit is placed under a Van Vistar Adhikari who is given two Van Vistar Sahayaks and seven Van Sevaks to assist him in the activities of social forestry on the field. Area of unit is further divided into six sections where a one Van Sahayak is posted to carry out the work on the field.

It is important to mention that both the districts were not having adequate staff to carry out the work in the entire district as per the proposed programmes. Due to this a part of the district could not be covered by now under the banner of social forestry programme. Both the districts differ in the area and physiology but they have been provided with similar staffing pattern.

5.2 Coverage under social forestry

Hitherto, preliminary survey of both the districts has been completed under USAID scheme. And in view of the nearness to forest and the availability of land for social forestry programme 6 development blocks out of 13 blocks of Dhar district have been taken up for the extension of social forestry. In Raipur district out of 24 development blocks, 8 blocks have been adopted under social forestry development. These blocks have been organised into forest extension units and each unit has its separate head-quarters under the charge of a Van Vistar Adhikari (Table 5.2).

Table 5.2 Blocks covered under social forestry

Name of forest extension units	Headquarters	Blocks covered
A. Dhar district		
1. Dhar	Dhar	Dhar, Tirla
2. Nalchha	Nalchha	Nalchha, Dharumpuri
3. Badnawar	Badnawar	Badnawar
4. Sardarpur	Sardarpur	Sardarpur
5. Amzera	Amzera	Sardarpur
B. Raipur district		
1. Raipur	Raipur	Abhanpur, Dharsiwa
2. Mahasamund	Mahasamund	Arang, Mahasamund
3. Tilda	Simga	Tilda, Simga
4. Rajim	Rajim	Fingeshwar
5. Saraipali	Saraipali	Saraipali

To start with the work of social forestry the staff from the regular forest division was asked to carry out the preliminary work including the preparation of land for plantation and establishment of nursaries. The Van Vistar Adhikari and Van Vistar Sahayaks and Van Sevaks were recruited later on and they were trained specifically as per the requirements of social forestry programme. The Van Sevaks who are supposed to carry out the work on the field were paid special attention and they were imparted training in Social Forestry Training Institute at Shivpuri.

5.3 Development of social forestry in Dhar

Social forestry in the district was initiated by the forest department in 1977-78 and it continued till the formation of the directorate of social forestry in 1982-83. Side by side Forest Development Corporation also carried out social forestry programmes particularly road side plantation from 1980-81. The social forestry programme got their proper shape with the creation of a separate directorate which worked parallel to the regular forest department in its sphere.

5.3.1 Social forestry under Forest Department

The forest department implemented various social forestry schemes till formation of a separate social forestry division in the district. The schemes carried out by the department from 1977-78 to 1982-83 included forest conservation and development for rural fuel wood, development of forest under Agriculture and DPAP forest plantation with the help of USAID. Under these schemes the department was to cover 1729.05 hect. area under social forestry programme with the financial allocation of Rs.30,36,180. This target was achieved at the expense of Rs.23,96,857 or 78.94 per cent (Table 5.3).

Table 5.3 Targets and achievements of social forestry work done by Forest Department

Year	Particulars of social forestry programme	Physical		Financial	
		Target	Achievement	Allocation	Expenditure
1977-78	10-313 Forest plan 'D' Forest conservation & development, Rural Fuel Wood Plantation	100	100	1,99,900	1,62,016
1978-79	- dc -	200	200	2,40,000	1,91,121
	305- Agriculture and DPAP	50	50	30,000	24,586
1979-80	10-313 Forest plan'D' Forest conservation & development, Rural Fuel Wood Plantation	251	251	2,03,700	2,06,660
1980-81	- dc -	200	200	1,99,100	1,58,426
1981-82	- do -	203.05	203.05	3,68,800	3,14,106
	41-313 Forest Plantation with the help of USAID (Social Forestry)	75	75	1,00,000	1,10,340
1982-83	10-313	200	200	3,68,400	3,14,106
	41-313	450	450	13,26,280	9,15,496
	Total	1729.05	1729.05	30,36,180	23,96,857

Forest department also developed 13 departmental nurseries and raised more than 52 lakhs seedlings. Under the seedling distribution programme it supplied 32,83,710 seedlings free of cost to 32,968 beneficiaries belonging to 1279 villages from 1980-81 to 1982-83 (Table 5.4).

Table 5.4 Distribution of seedlings under social forestry by Territorial Forest Division.

Years	No.of seedlings distributed	No.of villages covered	No.of beneficiaries benefited
1980-81	18,83,710	519	18,688
1981-82	4,00,000	310	3,990
1982-83	10,00,000	450	10,290
Total	32,83,710	1279	32,968

5.3.2 Social Forestry by Forest Development Corporation

Forest development corporation took social forestry under DPAP scheme. Its work remained mainly confined to the road-side plantation. From 1980-81 to 1983-84 it covered 60 R.Kms. Corporation was allocated Rs.189.78 lakhs to carry out road-side plantation on 4825 hectares. It exceeded the target by covering 5465 hectares area under road-side plantation but spent only Rs.135.30 lakhs to achieve this target. Yearwise break-up had indicated that the corporation made steady progress during every year (Table 5.5).

Table 5.5 Particulars of roadside plantation carried out by the Forest Development Corporation

Years	Particulars of social forestry programme	Physical		Financial	
		Target	Achievement	Allocate (in lakh Rs.)	Expenditure (in lakh Rs.)
1980-81	1. Area covered	925 hect.	1640 hect.	42.00	20.90
	2. Road side plantation				
	a) No.of plants	48400	48400		
	b) K.M. covered	12 R.Kms.	30 R.Kms.		
1981-82	1. Area covered	1300 hect.	1225 hect.	42.00	35.57
	2. Road side plantation				
	a) No.of plants	9680	9680		
	b) K.M. covered	12 R.Kms.	12 R.Kms.		
1982-83	1. Area covered	1300 hect.	1300 hect.	42.00	43.56
	2. Road side plantation				
	a) No.of plants	9680	9680		
	b) K.M. covered	12 R.Kms.	12 R.Kms.		
1983-84	1. Area covered	1300 hect.	1300 hect.	63.78	35.27
	2. Road side plantation				
	a) No.of plants	-	-		
	b) K.M. covered	24 R.Kms.	6 R.Kms.		
	Total			189.78	135.30

5.3.3 Development of social forestry under Social Forestry Division

Social forestry division started operating from July 1982 and its activities included plantation on community land, development of nurseries and preparation of land for plantation and distribution of seedlings and seed packets and extension services.

5.3.3.1 Community plantation

As per the target 18 grampanchayats belonging to the 5 selected blocks were covered during 1983-84. In all plantation was done on an area of 786.780 hectares belonging to the 21 villages. For the next year (1984-85) an area of 849 hectares was to be planted in 16 villages belonging to the similar number of grampanchayats. For this purpose an area of 787 hectares was prepared during 1982-83 and it was planted during the rains of 1983. Further an area of 849 hectares was also prepared in 1983-84 and it was brought under plantation during 1984-85 (Table 5.6 and Table 5.7).

Table 5.6 Panchayats and area covered under community plantation during 1983-84

Block	Grampanchayat	Village	Area in hectares
I. Tirls	1. Salkanpur	1. Dilawara	40.000
	2. Chikliya	2. Chikliya	25.000
	--	3. Gyanpura	20.000
II. Dhar	3. Dedla	4. Dedla	25.000
	4. Bagditurk	5. Delmi	15.000
	5. Dhar	6. Khanpura	15,000
III. Nalchha	6. Nalchha	7. Utiatekri	35.000
	--	8. Somwaria	25.000
	--	9. Nalchha	2.500
	7. Kakalpura	10. Bhoplia	25.000
	8. Diggthan	11. Diggthan	25.000
IV. Badnawar	9. Kheda	12. Nageshwar	40.000
	10. Chayan	13. Chayan	75.000
	11. Sendla	14. Sendla	75.000
	12. Multhan	15. Multhan	35.000
	13. Derkha	16. Koteshwar	50.000
V. Sardarpur	14. Bodia	17. Bodia	43·832
	15. Bola	18. Hanumatia-Singeshwar	44.765
	16. Amzera	19. Amzera	50.874
	17. Rajpura	20. Idria	40.186
	18. Chalni hatod	21. Hatod	73.623
Dhar	Dhar-Mandaw road-side 5 R.Kms.		6.000
Total			786.780

Table 5.7 Panchayats and area covered under community plantation during 1984-85

Block	Grampanchayat	Village	Area in hectare
I. Tirla	1. Salkanpur	1. Salkanpur	30.000
	2. Chikliya	2. Amkheda	22.000
II. Badnawar	3. Tilgara	3. Tilgara	40.000
	4. Bhensola	4. Bhensola	30.000
	5. Chayan	5. Chayan	20.000
	6. Sendla	6. Sendla	35.000
	7. Multhan	7. Multhan	30.000
	8. Derkha	8. Derkha	20.000
III. Sardarpur	9. Rajod	9. Rajod	50.000
	10. Bodia	10. Bodia	107.000
	11. Bola	11. Bodli	70.000
	12. Jolana	12. Jolana	50.000
	13. Amzera	13. Amzera	23.000
	14. Chalni Hatod	14. Tandakheda	150.000
IV. Dharmpur	15. Tarapur	15. Tarapur	44.000
	16. Balwaria	16. Baswi	96.000
Dhar	Dhar-Lebad road-side 18 R.Kms.		24.000
Total			849.000

5.3.3.2 Development of nurseries

To keep pace with the demands of social forestry plantation work, the development of nurseries was also taken up in 14 grampanchayats belonging to 5 selected blocks. Each grampanchayat have atleast one nursery to feed its requirements from 1985. Among the 14 nurseries, 6 were permanent and 8 temporary nurseries (Table 5.8)

Table 5.8 Nurseries and the plants raised for social forestry

Block	Grampanchayat	Name of nursery	No.of nurseries		TOTAL
			Temporary	Permanent	
I. Dhar	1. Municiple Corporation	Natnegra	-	1	1
II. Nalchha	2. Nalchha	Nalchha	-	1	1
	3. Lunehra	Jogigerhi	-	1	1
III.Dharmpuri	4. Tarapur	Basmi	1	-	1
	5. Balwari	Chandawad	1	-	1
IV. Sardarpur	6. Bola	Bola	-	1	1
	7. Phoolgawdi	Phoolgawdi	1	-	1
	8. Bodia	Bodia	1	-	1
	9. Chotia Balod	Tandakheda	1	-	1
	10.Rajpura	Indriya	1	-	1
	11.Hatod	Meentha	-	1	1
V. Badnawar	12.Chayan	Chayan	1	-	1
	13.Kheda	Nageshwar	-	1	1
	14.Derkha	Koteshwar	1	-	1
		Total :	8	6	14

5.3.3.3 Distribution of seedlings and seed packets

As envisaged in the programme the villagers were also to be involved in the social forestry to make them tree conscious. Under this scheme weaker sections of the society particularly agricultural labourers, marginal and small farmers were paid special attention to attract them to grow trees in their baris, on field bunds and at such other places. For this purpose during 1983-84, 2,14,530 plants and 5 lakh seed packets were distributed to the beneficiaries in the selected blocks. During next year (1984-85) these figures become quite large as social forestry division distributed 4,96,627 plants and 25 lakh seed packets to the beneficiaries who mainly come from weaker sections. This distribution of plants and seed packets was done free of cost and the beneficiaries were also provided guidance to raise the plants (Table 5.9).

Table 5.9 Distribution of plants and seed packets in 1983-84 and 1984-85

Name of block	1983-84		1984-85	
	No.of		No.of	
	Plants	Seed packets	Plants	Seed packets
1. Tirla	3,560	25,000	38,840	1,75,600
2. Dhar	4,690	75,000	62,405	2,84,400
3. Sardarpur	83,790	2,10,000	1,66,964	10,75,000
4. Bandnawar	79,830	90,000	1,07,574	4,25,000
5. Nalchha	14,000	60,000	52,844	2,90,000
6. Dharampuri	28,660	40,000	68,000	2,50,000
Total	2,14,530	5,00,000	4,96,627	25,00,000

5.4 Development of social forestry in Raipur

As mentioned earlier the Raipur district was covered during the 3rd phase in 1983-84, more than a year later than Dhar district. The forest department initiated social forestry since 1980-81 while it was done in Dhar district in 1977-78. Practically social forestry work in Raipur district hitherto had been mainly carried out by the forest department and the social forestry division had become active in the district since August 1983. Forest Development Corporation had not yet started functioning in the district.

5.4.1 Social forestry under Forest Department

Social forestry work carried out by forest department included the preparation of land for plantation and nurseries, plantation work and the raising of nurseries. From 1980-81 to 1984-85 the forest department had a target of 3250 hectares land preparation and plantation of trees on an area of 3220 hectares. This target was fully achieved at the expense of Rs.93,99,725 as against the allocation of Rs.94,69,000. The schemes implemented by the forest department were similar to those carried out in Dhar district (Table 5.10).

Table 5.10 Targets and achievement of social forestry work done by Forest Department

Years	Particulars	Target	Achievement	Funds Allocated	Funds Used
1980-81	Centrally sponsored New Scheme- Fuelwood Plantation	250 hect. Area Prep.	250 hect. Area Prep.	2,15,000	2,21,059
1981-82	10-313 Forest Plan'D'Forest Conservation & Development (a) Rural Fuelwood Plantation	1000 hect. Area Prep.	1000 hect. Area Prep.	14,00,000	13,99,990
	10-314-4- National Rural Programme Fuelwood Plantation	250 hect. Plantation	250 hect. Plantation	2,13,000	2,12,907
1982-83	10-313 Forest Plantation Scheme (a) Rural Fuelwood Plantation	1000 hect. Plantation 1000 hect. Area Prep.	1000 hect. Plantation 1000 hect. Area Prep.	20,00,000	21,67,146
1983-84	- do -	970 hect. Plantation 1000 hect. Area Prep.	970 hect. Plantation 1000 hect. Area Prep.	38,85,000	38,73,782
1984-85	- do -	600 hect. Plantation	600 hect. Plantation	10,56,000	9,23,930
	41-413 Forest Sub-Plan N- Tribal Sub-Plan 5- Plantation Scheme Fuelwood Plantation	400 hect. Plantation	400 hect. Plantation	7,00,000	6,00,903
Total		3220 hect. Plantation 3250 hect. Area Prep.	3220 hect. Plantation 3250 hect. Area Prep.	94,69,000	93,99,725

5.4.2 Development of Social Forestry under Social Forestry Division

The work of social forestry division started from August 1983 with the preparation of land for plantation and for the development of nurseries. Its programme included the plantation on community land, development of nurseries both departmental and private and the free distribution of plants and seed packets.

5.4.2.1 Community Plantation

Social forestry division had a target of land preparation on 450 hectares in 1983-84 and during next year this target was enlarged to 750 hectares beside the plantation on the 450 hectares prepared during the last year (Table 5.11).

Table 5.11 Targets fixed under social forestry in Raipur district

Year	Preparation of land	Plantation	Remarks
1983-84	450 hect.	-	For Small Timber & Fuel 360 hect. Fodder & Pasture - 90 hect.
1984-85	750 hect.	450 hect.	For Small Timber & Fuel 600 hect. Fodder & Pasture-150 hect.

Community plantation work was done in 26 panchayats belonging to 7 development blocks covered under the 5 social forestry extention units. By the end of 1984-85 area prepared for plantation was reported 1200 hectares and plantation was done on an area of 472 hectares as against the proposed area of 450 hectares (Table 5.12).

Table 5.12 The Panchayats and area covered under community plantation during 1983-84

Name of Extension unit	Name of development block	Name of grampanchayat	Area in hectares
I. Raipur	1. Dharasiwa	1. Deori	23
		2. Mohdi	20
	2. Abhanpur	3. Pacheda	15
		4. Khola	13
		5. Sunderkera	17
		6. Tamasioni	25
		7. Kendri	15
II. Tilda	3. Tilda	8. Bemta	8
		9. Beladi	22
		10. Kota	22
		11. Rajia	25
		12. Mahdi	33
	4. Simga	13. Kamta	10
III.Mahasamund	5. Arang	14. Chhatona	25
		15. Godhi	20
		16. Nakta	13
		17. Jarod	20
		18. Kumhari	25
		19. Kukra	14
IV. Raijim	6. Fingeshwar	20. Arand	22
		21. Kirwai	13
		22. Beltukari	12
V. Saraipali	7. Saraipali	23. Sirboda	15
		24. Bhuthia	15
		25. Baloda	15
		26. Kasturabahal	15
		Total :	472

5.4.2.2 Development of nurseries

Both departmental and private nurseries were developed in the selected areas covered under social forestry in the district. So for 12 departmental and 7 private nurseries had been established.

The departmental nurseries were raised at different locations to feed the requirements of plantation and distribution of plants in the near-by areas. These nurseries had 5,10,000 naked plants and 16,80,000 plants were raised in polythene bags (Table 5.13)

Table 5.13 Nurseries and the plants raised for social forestry

Name of Unit	Name of Development Block	Name of Nursery	No. of Plants	
			In Polythene bags	Raised Naked
I. Raipur	1.Abhanpur	1.Mana	2,80,000	30,000
		2.Kapasada	2,25,000	40,000
II.Mahasamund	2.Mahasamund	3.Mahasamund	1,30,000	40,000
	3.Arang	4.Chhatona	1,20,000	15,000
		5.Jarod	40,000	5,000
		6,Pahanda	45,000	10,000
III.Tilda	4.Simge	7.Kachlon	2,60,000	1,20,000
	5.Tilda	8.Rajia	80,000	60,000
		9.Khapri	80,000	60,000
IV.Rajim	6.Fingeshwar	10.Sarginala	2,00,000	50,000
V. Saraipali	7.Saraipali	11.Pujaripali	60,000	35,000
		12.Atrajhola	1,60,000	45,000
		Total :	16,80,000	5,10,000

The private nurseries were promoted in Tirla and Rajim blocks. These nurseries were raised by the people belonging to the weaker section particularly marginal and small farmers. These people were provided guidance along with the supply of p... developed in polythene bags ard seed packets. There were 2 p... nurseries in Tirla block and 5 in Rajim block and these ... 76,500 plants including 28,000 in the former and 48,500 in the later block (Table 5.14).

Table 5.14 Plants raised in private nurseries

Name of unit	No.of nurseries	No.of plants raised
Tirla	2	28,000
Rajim	5	48,500
Total :	7	76,500

5.4.2.3 Distribution of plants and seed packets

For the extension of social forestry at the faster rate involvement of larger number of persons was very necessary. Therefore in 1984, 4,12,830 plants were distributed to the farmers for plantation particularly on the field bunds and grass lands. Besides 2,12,200 seed packets were also distributed among the farmers for this purpose. This distribution of plants and seed packets was done free of cost and efforts were made to benefit the marginal and small farmers under the programme (Table 5.15).

Table 5.15 Distribution of Plants and Seed packets

Name of unit	No.of	
	Plants	Seed packets
Raipur	1,18,850	45,200
Mahasamund	77,780	43,000
Tirla	60,500	50,000
Saraipali	55,700	27,000
Rajim	1,00,000	47,000
Total	4,12,830	2,12,200

CHAPTER VI

PROFILE OF SELECTED GRAMPANCHAYATS

6.1 Selection of Grampanchayats

It was envisaged in the social forestry programme that the district units will channelize its activities in the villages through the grampanchayats. It will be the responsibility of the grampanchayats to spare the community land for social forestry and to help officials in carrying out social forestry programmes in the villages. Grampanchayats will also manage the distribution of social forestry products in a fair manner amongst villagers. It was decided that all productions of the social forestry plantations will go to the concerned grampanchayats. Thus the grampanchayat occupied a pavitol position in the management of social forestry productions and their distribution.

In view of the above facts two blocks from each district and one grampanchayat from each block were taken as sample for the present study. The concentration of social forestry activities led the selection of blocks and the grampanchayats. On this basis in Dhar district Chiklya grampanchayat from Tirla block and Nalchha grampanchayat from Nalchha block were selected. In Raipur district Arand grampanchayat from Fingeshwar block and Kota grampanchayat from Tilda block were selected.

6.2 Villages, Households & Population

The Nalchha grampanchayat covered 9 villages and Chiklya grampanchayat 6 villages. Both the grampanchayats Arand and Kota of Raipur district were covering 2 villages each. Thus the 4 sample grampanchayats covered 19 villages which had 2687 households and 16,794 persons. Among these, 15 villages with 2082 households (77.48%) and 13152 persons (78.31%) belonged to the grampanchayats

of Dhar district. The selected grampanchayats of Raipur district comprised 4 villages which were inhabited by 605 households (22.52%) having a population of 3642 persons (21.69%) (Table 6.1)

Table 6.1 Grampanchayats, Villages, Households & Population

Grampanchayats	No.of Villages	No.of Households		Population	
		No.	%	No.	%
I. Dhar					
1. Chi[illegible]ya	6	575	21.40	2750	16.37
2. Nalchha	9	1507	56.08	10402	61.94
Total	15	2082	77.48	13152	78.31
II. Raipur					
1. Arand	2	270	10.05	1989	11.85
2. Kota	2	335	12.47	1653	9.84
Total	4	605	22.52	3642	21.69
Grand Total	19	2687	100.00	16794	100.00

6.3 Population by Caste and Tribe

The castes and tribes were grouped into three categories namely scheduled castes, scheduled tribes and other castes. In the sample grampanchayats, other castes persons preponderated with 72.56 per cent while the scheduled castes covered 16.73 per cent and that scheduled tribes 10.71 per cent.

In Dhar district grampanchayats other castes persons comprised 70.80 per cent and the scheduled caste 17.15 per cent and the

scheduled tribes 12.50 per cent population. In Raipur district the other castes covered more than 80 per cent (81.82 per cent) followed by scheduled castes 15.21 per cent. The scheduled tribes had a very nominal population and covered only 2.97 per cent of the total population (Table 6.2).

Table 6.2 Population by caste and tribe

Grampanchayats	Scheduled castes		Scheduled Tribes		Other Castes		Total	
	No.	%	No.	%	No.	%	No.	%
I. Dhar								
1. Chiklya	184	6.69	753	27.38	1813	65.93	2750 (100.00)	16.37
2. Nalchha	2071	19.91	938	9.02	7393	71.07	10402 (100.00)	61.94
Total	2255	17.15	1691	12.85	9206	70.00	13152 (100.00)	78.31
II. Raipur								
1. Arand	273	13.73	77	3.87	1639	82.40	1989 (100.00)	11.85
2. Kota	281	17.00	31	1.88	1341	81.12	1653 (100.00)	9.84
Total	554	15.21	108	2.97	2980	81.82	3642 (100.00)	21.69
Grand Total	2809	16.73	1799	10.71	12186	72.56	16794 (100.00)	100.00

6.4 Population by sex

The population of sample grampanchayats consisted of 8519 males, 50.73 per cent and 8275 females, 49.27 per cent. The proportion of males and females in the population among the individual grampanchayats was more or less similar as males comprised population between 50 and 51 per cent and that females between 49 and 50 per cent. The Dhar district grampanchayats included 6671 males and 6481 females in the population of 13152. The Raipur district

panchayats had a population of 3642 which included 1848 males and 1794 females (Table 6.3).

6.5 Literacy

There returned 3950 literates and they covered 23.52 per cent of the total population. This proportion of literates was much higher among the males who had 33.64 per cent literates while the position of females was quite miserable and they had only 13.10 per cent literates in their population. Individually grampanchayats of both the districts were having more or less similar proportion of literates. The figures being 23.43 per cent for Dhar and 23.86 per cent for Raipur district grampanchayats. Among the males the Dhar district grampanchayats included 33.88 per cent literates while this figure in Raipur district was 32.79 per cent. In the case of females the situation was some what different, the Raipur district grampanchayats consisted of 14.66 per cent female literates as against 12.67 per cent in Dhar district grampanchayats (Table 6.3).

Table 6.3 Population and Literacy

Grampanchayats	Population			Literates		
	Persons	Male	Female	Persons	Male	Female
I. Dhar						
1. Chiklya	2750 (100.00)	1366 (49.67)	1384 (50.33)	540 (19.64)	452 (33.09)	88 (6.36)
2. Nalchha	10402 (100.00)	5305 (51.00)	5097 (49.00)	2541 (24.43)	1808 (34.08)	733 (14.38)
Total	13152 (100.00)	6671 (50.72)	6481 (49.28)	3081 (23.43)	2260 (33.88)	821 (12.67)
II. Raipur						
1. Arand	1989 (100.00)	1012 (50.88)	977 (49.12)	381 (19.16)	286 (28.26)	95 (9.72)
2. Kota	1653 (100.00)	836 (50.57)	817 (49.43)	488 (29.52)	320 (38.28)	168 (20.56)
Total	3642 (100.00)	1848 (50.74)	1794 (49.26)	869 (23.86)	606 (32.79)	263 (14.66)
Grand Total	16794 (100.00)	8519 (50.73)	8275 (49.27)	3950 (23.52)	2866 (33.64)	1084 (13.10)

6.6 Occupational distribution

There returned 5241 or 31.21 per cent as economically active persons belonging to the age group of 15-59 years. This proportion in Dhar district grampanchayats was some what smaller and in Raipur district grampanchayats much larger, the figures being 29.25 and 38.28 per cent respectively. Among total workers nearly 98.00 per cent were engaged in agricultural activities as cultivators and agricultural labourers. However 49.32 per cent were mainly engaged as agricultural labourers and 48.60 per cent as farmers. Remaining workers comprising 2.08 per cent in the total working force were persuing allied trades including non-agricultural labour jobs.

In Dhar district, the cultivators comprised 51.00 per cent while this figure in Raipur district was 41.97 per cent. The position was just opposite in the case of agricultural labour as it comprised 58.03 per cent in Raipur district as against 46.17 per cent in Dhar district. The workers engaged in other trades returned from Dhar district alone and covered only 2.83 per cent of the total workers (Table 6.4).

Table 6.4 Occupational distribution

Grampanchayats	Population	Classification of workers							
		Total workers		Farmers		Agricultural labourers		Other workers	
		No.	%	No.	%	No.	%	No.	%
I. Dhar									
1. Chiklya	2750	903 (100.00)	32.84	388	42.97	458	50.72	57	6.31
2. Nalchha	10402	2944 (100.00)	28.30	1574	53.46	1318	44.77	52	1.77
Total	13152	3847 (100.00)	29.25	1962	51.00	1776	46.17	109	2.83
II. Raipur									
1. Arand	1989	789 (100.00)	39.67	195	24.71	594	75.29	-	-
2. Kota	1653	605 (100.00)	36.60	390	64.46	215	35.54	-	-
Total	3642	1394 (100.00)	38.28	585	41.97	809	58.03	-	-
Grand Total	16794	5241	31.21	2547	48.60	2585	49.32	109	2.08

6.7 Households and size of holdings

Among the 2687 households, the large farmers covered 18.50 per cent, medium size farmers 23.60 per cent, small farmers 20.88 per cent and the marginal farmers 23.00 per cent households. There returned 14.02 per cent households which did not own land at all. The proportion of landless households was reported 13.01 per cent in Dhar as against 17.52 per cent in Raipur district grampanchayats. Similarly small farmers and marginal farmers returned in larger proportion in Raipur district as compared to the Dhar district grampanchayats. The position of large and medium farmers was found just opposite as they have larger proportion in Dhar district grampanchayats as compared to grampanchayats of Raipur district (Table 6.5).

Table 6.5 Households according to size of farms

Grampanchayats	Large Farmers	Medium Farmers	Small Farmers	Marginal Farmers	Landless	Total
I. Dhar						
1. Chiklya	72	112	113	88	90	575
2. Nalchha	295	408	263	360	181	1507
Total	467	520	376	448	271	2082
%	(22.43)	(24.98)	(18.06)	(21.52)	(13.01)	(100.00)
II. Raipur						
1. Arand	12	72	89	80	17	270
2. Kota	18	42	96	90	89	335
Total	30	114	185	170	106	605
%	(4.96)	(18.84)	(30.58)	(28.10)	(17.52)	(100.00)
Grand Total	497	634	561	618	377	2687
%	(18.50)	(23.60)	(20.88)	(23.00)	(14.02)	(100.00)

6.8 Ownership of land

The sample grampanchayats occupied an area of 10928.87 hectares, of which 3023.67 hectares or 27.67 per cent belonged to the revenue department and it was classified as community land. The area under private ownership was 7905.20 hectares or 72.33 per cent of the total geographical area reported in the village papers. The area owned by the farmers included 432.55 hectares or 5.47 per cent as permanent fallows and remaining 7472.65 hectares or 94.53 per cent of the land was put to agricultural uses. In Dhar district grampanchayats total area was 9189.78 hectares, of which 28.57 per cent was under community land and 71.43 per cent under individual ownership. Area under individual ownership was reported 6564.35 hectares which included 4.37 per cent permanent fallows and 95.63 per cent land under agricultural uses. Situation in Raipur district grampanchayats was slightly different. The total area occupied by the two grampanchayats in this district was 1739.09 hectares, of which 22.90 per cent was under community land and 77.10 per cent under individual ownership. Area under individual holdings amounted to 1340.85 hectares and of this 89.14 per cent was utilised for agricultural purposes and 10.86 per cent was kept as permanent fallows (Table 6.6).

Table 6.6 Land ownership

Classification of land	Dhar district			Raipur district			Grand Total
	Chiklya	Nalchha	Total	Arand	Kota	Total	
			(84.09)			(15.91)	(100.00)
1. Total Area	3414.14 (37.15)	5775.64 (62.85)	9189.78 (100.00)	669.45 (38.49)	1069.64 (61.51)	1739.09 (100.00)	10928.87
2. Area under Cummunity land	664.75	1960.68	2625.43 (28.57)	235.37	162.87	398.24 (22.90)	3023.67 (27.67)
3. Area under ownership	2749.39	3814.96	6564.35 (71.43)	434.08	906.77	1340.85 (77.10)	7905.20 (72.33)
4. Area under permanent fallow	106.00	181.00	287.00 (4.37)	36.35	109.20	145.55 (10.86)	432.55 (5.47)
5. Area Cultivated	2643.39	3633.96	6277.35 (95.63)	397.73	797.57	1195.30 (89.14)	7472.65 (94.53)

6.9 Utilisation of Agricultural land

Net area sown was reported 6724.04 hectares, of which 1635.25 hectares or more than 25.00 per cent was sown more than once. Thus gross-cropped area amounted to 8359.29 hectares including 51.77 per cent sown under kharif crops and 48.23 per cent under rabi crops. Area irrigated by all sources was reported 1188.98 hectares which covered 14.22 per cent of the total gross-cropped area. Area sown under the main crops was 4562.05 hectares and it covered nearly 55.00 per cent of the gross-cropped area. The main crops grown included paddy, teora, wheat and kodo in Raipur district and that of jowar, groundnut, wheat, gram and cotton in Dhar district grampanchayats.

Raipur district grampanchayats had a gross-cropped area of 1546.25 hectares including 27.47 per cent sown more than once. Kharif crops covered nearly two third, 66.39 per cent and the rabi crops 33.61 per cent of the gross-cropped area. The area irrigated was quite large and it covered 43.23 per cent of the gross-cropped area. In Dhar district the proportion of double cropped area was lesser as compared to the Raipur district, the percentage being 17.71 per cent of the gross-cropped area of 6813.04 hectares which was largely covered under rabi crops with 51.54 per cent while the kharif crops were sown on 48.46 per cent area. Area irrigated was reported very nominal and it covered only 7.64 per cent of the total gross-cropped area (Table 6.7)

Table 6.7 Utilization of land

(in hectares)

Utilization of land	Dhar district			Raipur district			Grand Total
	Chiklya	Nalchha	Total	Arand	Kota	Total	
1. Gross-cropped area	2864.31	3948.73	6813.04	715.85	830.40	1546.25	8359.29
2. Net area sown	2511.76	3094.93	5606.69 (82.29)	451.09	666.26	1117.35 (72.26)	6724.04 (80.44)
3. Double cropped area	352.55	853.80	1206.35 (17.71)	264.76	164.14	428.90 (27.74)	1635.25 (19.56)
4. Area sown in kharif	1006.79	2294.63	3301.42 (48.46)	380.46	646.02	1026.48 (66.39)	4327.90 (51.77)
5. Area sown in rabi	1857.52	1654.10	3511.62 (51.54)	335.39	184.38	519.77 (33.61)	4031.39 (48.23)
6. Area Irrigated	209.07	311.54	520.61 (7.64)	389.05	279.32	668.37 (43.23)	1188.98 (14.22)
7. Area under main crops	1028.38	2002.89	3031.27 (44.49)	513.29	1017.49	1530.78 (99.00)	4562.05 (54.57)

Note : Percentages are drawn from gross-cropped area.

6.10 Area available for Social Forestry

The sample grampanchayats were intensively covered under social forestry programmes and plans were already prepared to carry out the plantations under social forestry schemes. In all 878.83 hectares area was planned to be covered under social forestry plantation. This included 785.03 hectares or 89.33 per cent community land, 15.50 hectares or 1.76 per cent on private land spared from the area under agricultural uses and 78.30 hectares or 8.91 per cent from the permanent fallows.

In Dhar district the plantation was to be done on 552.80 hectares which consisted of 85.56 per cent community land and 14.44 per cent private land. In Raipur district the area to be covered under plantation was 326.03 hectares which included 89.33 per cent community land and 10.67 per cent private land. Some of the area was already covered under the plantation and the preparations were on to cover the remaining area (Table 6.8).

Table 6.8 Area available for Social Forestry

(Area in Hect.)

Grampanchayats	Community		Private		Agricultural		Total		%
	Area	%	Area	%	Area	%	Area	%	
I. Dhar									
1. Chiklya	256.00	86.57	12.50	4.23	27.20	9.20	295.70	100.00	33.65
2. Nalchha	217.00	84.40	-	-	40.10	15.60	257.10	100.00	29.25
Total	473.00	85.56	12.50	2.26	67.30	12.18	552.80	100.00	62.90
II. Raipur									
1. Arand	149.16	91.42	3.00	1.84	11.00	6.74	163.16	100.00	18.57
2. Kota	162.87	100.00	-	-	-	-	162.87	100.00	18.53
Total	312.03	95.71	3.00	0.92	11.00	3.37	326.03	100.00	37.10
Grand Total	785.03	89.33	15.50	1.76	78.30	8.91	878.83	100.00	100.00

6.11 Annual requirements of fodder

There returned 7785 livestock from the selected grampanchayats. These animals included mainly the cattle and the buffaloes which were necessarily kept on farm due to their indispensable roles in the agriculture and the food habits of the people. As per the estimates adopted by the directorate of social forestry, the annual requirement for the reporting livestock was reported 2,30,335.5 qtls. According to their standard, on an average the annual fodder requirement for a bull, a bullock or a cow was reported 36.5 qtls. The buffaloes needed much fodder and it was 43.8 qtls. per buffaloe per annum. A calf or a heifer required 12.8 qtls. fodder per year (Table 6.9).

Table 6.9 Annual requirement of fodder

Classification of livestock	Average Consumption per animal per year in qtls.	Dhar district Grampanchayats		Raipur District Grampanchayats		Grand Total	
		Total animal (No.)	Total fodder requirement. (Qtls.)	Total Animal (No.)	Total fodder requirement. (Qtls.)	Total animal (No.)	Total fodder requirement (Qtls.)
Draught Animals		1971	72124.0	754	29638	2725	101762.0
1. Bulls	36.5	12	438.0	3	109.5	15	547.5
2. Bullocks	36.5	1934	70591.0	461	16826.5	2395	87417.5
3. He buffaloes	43.8	25	1095.0	290	12702.0	315	13797.0
Milch Animals		1767	68554.3	721	27097.6	2488	95651.9
1. Cows	36.5	1211	44201.5	614	22411.0	1825	66612.5
2. She buffaloes	43.8	556	24352.8	107	4686.6	663	29039.4
Others							
Calves & Heifers	12.8	2043	26150.4	529	6771.2	2572	32921.6
Total		5781	166828.7	2004	63506.8	7785	230335.5

6.12 Annual energy requirements

The directorate of social forestry also assessed the energy consumption and according to it on an average a household consumed 28.0 qtls. of fuel to meet the requirement of their energy consumption. This included 13.5 qtls. wooden fuel, 8.5 qtls. dung cake, 5.4 qtls. crop residues and 0.6 qtls. other fuels. On the basis of this 2082 households of Dhar district grampanchayat were consuming energy fuels about 58296 qtls and that 605 households of Raipur district grampanchayats 16940 qtls. per year.

Besides the energy requirements the household also needed timber and bamboo for building purposes. On an average a household required 40 bamboos and 11 cubic metres of timber during the year for different building purposes (Table 6.10).

Table 6.10 : Annual energy requirement

Source of energy	Average consumption per household per year	Dhar district Grampanchayats (Houses-2082)	Raipur district Grampanchayats (Houses-605	Total requirements (Houses-2687)
1. Fuel wood	13.5 qtls.	28107.0	8157.5	36274.5
2. Dungcake	8.5 "	17697.0	5142.5	22839.5
3. Crop residues	5.4 "	11242.8	3267.0	14509.8
4. Others	0.6 "	1249.2	363.0	1612.2
Total	28.0 "	58296.0	16940.0	75236.0
1. Timber	11 Cubic m.	22902.0cm.	6655.0cm.	29557 cm.
2. Bamboo	40 No.	83280	24200	107480

6.13 Developmental facilities

(a) Educational

There were 14 primary schools in the selected grampanchayats and these schools served the 19 villages. These panchayats also had 4 middle schools, of which one each was located in Chiklya and Kota panchayats and two in Nalchha panchayat. Arand grampanchayat did not have middle school. The Nalchha grampanchayat had 2 Higher Secondary Schools while others had none.

(b) Health -

Health facilities returned only from the Dhar district grampanchayats specifically from Nalchha grampanchayat which had a primary health centre, dispensary and hospital two each. The Chiklya grampanchayat also had a primary health centre.

(c) Irrigation -

Wells and tanks were reported as the sources of irrigation available in the concerned grampanchayats. In all there were 404 irrigation wells, of which 225 were in Raipur district and 179 wells in Dhar district grampanchayats. There were 18 irrigation tanks which were largely, numbering 10, reported from Raipur and remaining 8 tanks were in Dhar district grampanchayats.

(d) Electricity - Most of the villages falling under the Dhar district grampanchayats were electrified. Besides there were also 13 bio-gas plants including 9 in Nalchha and 4 in Chiklya grampanchayats (Table 6.11).

Table 6.11 Developmental facilities

(Figure- Number)

Facilities	Dhar district			Raipur district			Grand Total
	Chiklya	Falchha	Total	Arand	Kota	Total	
I. Educational Facilities							
1. Primary School	3	7	10	2	2	4	14
2. Middle School	1	2	3	-	1	1	4
3. Higher Secondary School	-	2	2	-	-	-	2
II. Health Facilities							
1. Primary Health Centre	1	2	3	-	-	-	3
2. Dispensary	-	2	2	-	-	-	2
3. Hospital	-	2	2	-	-	-	2
III. Irrigation Facilities							
1. Wells	22	157	179	168	57	225	404
2. Tanks	4	4	8	4	6	10	18
IV. Electricity							
Gobar Gas Plant	4	9	13	-	-	-	13

6.14 Development of social forestry

As indicated earlier the selected grampanchayats were having 785.03 hectares area for social forestry and during two years, 1983 and 1984, they had covered an area of 173.50 hectares or 22.10 per cent under community plantation. The Dhar grampanchayats were having 473.00 hectares area, of which 129.50 hectares area or 27.38 per cent had already been covered. The Raipur district grampanchayats had completed community plantation on 44.00 hectares or 14.10 per cent out of 312.03 hectares demarcated for this purpose.

Dhar grampanchayats carried out community plantation mainly during 1983 and it included demonstration plot on 10.00 hectares, plantation on a hill mond (tekri) on 15.00 hectares and in Ganpura village on 2[illegible].00 hectares under Chiklya grampanchayat. The Nalchha grampanchayat completed community plantation on 62.50 hectares area during 1983 including 2.50 hectares near a tank, 35.00 hectares on utia tekri and 25.00 hectares in Somwaria village. The Chiklya grampanchayat also carried out community plantation in 1984 on 22.00 hectares in Amkheda village. Both the grampanchayats of Raipur district did community plantation during 1984 and each covered 22.00 hectares Bhata Land each.

In all 2,29,120 plants were planted by the selected grampanchayats, of which, 1,70,575 plants or 74.45 per cent belong to Dhar district grampanchayats and 58,545 plants or 25.55 per cent to Raipur district grampanchayats. Yearly break up has indicated that 1,41,215 plants or 61.63 per cent were planted during 1983 and 87,905 plants or 38.37 per cent during 1984.

Expenditure on social forestry plantation accounted for Rs.5,98,815.70, of which Rs.4,29,667.70 or 71.75 per cent was incurred by Dhar district grampanchayats and Rs.1,69,146.00 or 28.25 per cent by Raipur district grampanchayats. By the end of 1984, the 1983 plantation had received three weedings and that of 1984 two weedings. The replacement of the plants has indicated that 1,83,178 plants had been replanted by the end of third weeding till the end of 1984. The replacement has costed Rs.21,893.[illegible] In short, so far 4,12,298 plants has been used to cover an area of 173.50 hectares under community plantation at the cost of Rs.6,20,707.22 (Table 6.12).

Table 6.12 Development of Community plantation in the selected grampanchayats

Particulars of area	Year	Area	No.of plants planted	Plantation cost (in Rs.)	I First Weeding	Replacement of plant II First year (No.)	III Second year (No.)	Replacement cost (in Rs.)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
A. Dhar district								
1) Chiklya grampanchayat								
i) Demonstration plot	1983	10.00	13870	39952.30	750 (55.41)	7660 (55.23)	4900 (35.33)	1939.60
ii) Tekri	1983	15.00	13735	42753.15	1385 (10.08)	12285 (89.44)	5450 (39.68)	2116.57
iii) Gyanpura	1983	20.00	16040	40883.45	3665 (22.85)	7700 (48.00)	10600 (66.08)	1490.20
iv) Amkheda	1984	22.00	29360	82260.65	4250 (14.48)	12350 (42.06)	-	3770.50
Sub Total		67.00	73005	205849.55	10050 (13.77)	39995 (54.78)	20950 (28.70)	9316.87
2) Nalchha grampanchayat								
i) Near tank	1983	2.50	3620	10521.50	1283 (35.44)	1210 (33.43)	750 (20.72)	280.00
ii) Utia tekri	1983	35.00	53620	125093.50	2700 (5.04)	16100 (30.03)	15650 (29.19)	2415.00
iii) Somwaria	1983	25.00	40330	88203.15	9000 (22.32)	16500 (40.91)	11000 (27.27)	2565.00
Sub Total		62.50	97570	223818.15	12983 (13.31)	33810 (34.65)	27400 (28.08)	5260.00
Total		129.50	170575	429667.70	23033 (13.50)	73805 (43.27)	48350 (28.35)	14576.87

Table continued....

Table 6.12 continued. ....

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
B. Raipur district								
1. Kota grampanchayat Kota Bhata land	1984	22.00	29221	105568.00	5135 (17.57)	13770 (47.12)	-	4650.00
2. Arand grampanchayat Arand Bhata land	1984	22.00	29324	63578.00	5025 (17.14)	14060 (47.95)	-	2666.65
Total		44.00	58545	169146.00	10160 (17.35)	27830 (47.54)	-	7316.65
Grand Total		173.50	229120	598813.70	33193 (14.49)	101635 (44.36)	48350 (21.10)	21893.52

The species planted generally included Bamboo, Siras, Sheesham, Karanj, Neem, Subabool, Neelgiri and Anwala. These trees are mainly required for building, fuel and for animal fodder. Therefore, these were having likings among the local pelple.

Besides community plantation, the social forestry programme was also taken up by a middle school of Chiklya gram-panchayat in Dhar district. The school was having 112 students. It received 50 plants and 500 seed packets. The species supplied to the school included 40 neelgiri and 10 bamboo seedlings. Among these 6 plants including 3 each neelgiri and bamboo were survived. The survival rate was 12.00 per cent because there was no fencing or chowkidar to guard the plants against the stray cattle which caused the loss of plants. In the absence of chowkidar, watering could not be done in time and it also adversely affected the survival of seedlings. The seed packets supplied to the school were not used for developing the nurseries or direct sowing.

.....

CHAPTER VII

PROFILE OF SAMPLE HOUSEHOLDS

7.1 Caste/Tribe

As mentioned earlier the sample consisted of 100 households including 80 participant and 20 non-participant households. The backward castes were predominant in the sample and occupied 78 households. The scheduled tribes comprised 7, scheduled castes 4 and other castes 11 households. The backward castes returned in the overwhelming majority at all the places and they constituted 78.00 per cent households among the participants and that 75.00 per cent among the non-participants. In Dhar district the proportion of backward caste households was reported 62.00 per cent and while it was 94.00 per cent in Raipur district. Other caste households returned from Dhar district alone. Scheduled tribes and scheduled castes were reported from both the districts (Table 7.1)

7.2 Population

There returned 720 persons from the sample households and among them 79.72 per cent come from participants and remaing 20.28 per cent persons from non-participant households. Thus the average size of a household in both the groups was more than 7 persons. According to the caste and tribe of the sample households 78.47 per cent population belonged to the backward castes and 10.00 per cent to other castes. The scheduled tribes men comprised 6.39 per cent and that scheduled castes 5.14 per cent persons (Table 7.2).

Table 7.1 Households according to Caste and Tribe

Castes/ Tribes	Dhar district			Raipur district			Total		
	Partici-pants	Non-Parti-cipants	Total	Parti-cipants	Non-part-cipants	Total	Parti-cipants	Non-Parti-cipants	Total
Scheduled Tribes	5	-	5	2	-	2	7	-	7
Scheduled Castes	3	-	3	-	1	1	3	1	4
Backward Castes	25	6	31	38	9	47	63	15	78
Other Castes	7	4	11	-	-	-	7	4	11
Total :	40	10	50	40	10	50	80	20	100

Table 7.2 Population according to Caste/Tribe

Castes	Dhar district			Raipur district			Total		
	Partici-pants	Non-Partici-pants	Total	Partici-pants	Non-Partici-pants	Total	Partici-pants	Non-Partici-pants	Total
Scheduled Tribes	30	-	30	16	-	16	46	-	46 (6.39)
Scheduled Castes	23	-	23	-	14	14	23	14	37 (5.14)
Backward Castes	178	56	234	282	49	331	460	105	565 (78.47)
Other Castes	45	27	72	-	-	-	45	27	72 (10.00)
Total	276	83	359	298	63	361	574 (79.72)	146 (20.28)	720 (100.00)

7.3 Average size of household

The average size of household was reported 7.2 persons and it was almost the same among the both, participant and non-participant households. The backward castes also returned with the similar size of 7.2 persons per household. The scheduled castes returned with the larger size of 9.3 members per household. The scheduled tribes and other castes had smaller size of 6.6 members per household. The largest size of 14 persons was reported from the lone non-participant schedule caste household in Raipur district while the smallest household with 5.1 persons returned from the backward castes in the participating households of Dhar district (Table 7.3).

7.4 Population by Age & Sex

The sample households had 392 or 54.14 per cent males and 328 or 45.56 per cent females. The participating households returned with almost similar proportion of males and females in the group; the figures being 54.01 per cent and 45.99 per cent. Among the non-participating households the males comparatively had larger proportion of 56.16 per cent as against the female proportion of 43.84 per cent.

The adults dominated the population with 398 persons or 55.28 per cent. The childrens also occupied a considerable size of 39.03 per cent while the aged persons were quite few being 41 or 5.69 per cent. The proportion of children, adults and aged persons did not differ much among the participating and non-participating households (Table 7.4).

Table 7.3 Average size per household

Castes	Dhar district			Raipur district			Total		
	Partici-pants	Non-Parti-cipants	Total	Parti-cipants	Non-Parti-cipants	Total	Parti-cipants	Non-Parti-cipants	Total
Scheduled Tribes	6.0	-	6.0	8.0	-	8.0	6.6	-	6.6
Scheduled Castes	7.7	-	7.7	-	14.0	14.0	7.7	14.0	9.3
Backward Castes	5.1	9.3	7.5	7.4	5.4	7.0	7.3	7.0	7.2
Other Castes	6.4	6.8	6.5	-	-	-	6.4	6.8	6.6
Total	6.9	8.3	7.2	7.5	6.3	7.2	7.2	7.3	7.2

Table 7.4 Population by age and sex

Population classification	Dhar district			Raipur district			Total		
	Parti-cipants	Non-parti-cipants	Total	Parti-cipants	Non-parti-cipants	Total	Parti-cipants	Non-part-cipants	Total
A. Total Persons	276	83	359	298	63	361	574	146	720
Males	160	49	209	150	33	183	310	82	392
Females	116	34	150	148	30	178	264	64	328
B. Total Aged persons	20	9	29	7	5	12	27	14	41
Males	11	5	16	3	4	7	14	9	23
Females	9	4	13	4	1	5	13	5	18
C. Total Adults	156	52	208	159	31	190	315	83	398
Males	88	32	120	85	16	101	173	48	221
Females	68	20	88	74	15	89	142	35	177
D. Total Children	100	22	122	132	27	159	232	49	281
Males	61	12	73	62	13	75	123	25	148
Females	39	10	49	70	14	84	109	24	133

7.5 Literacy

Every household was headed by an eldest male member who usually be a father or the elder brother. Among the 100 heads of the households, 70 were literates and 30 were illiterates. Among the participants, 72.50 per cent heads returned as literates while this proportion among the non-participants was 60.00 per cent. Among the 70 literate heads of the households, the largest number of 31 or 44.28 per cent did not attend school but were able to read and write. There were 15 or 21.42 per cent heads who received schooling up to primary level, 12 or17.14 per cent up to 8th standard or middle and another 12 or 17.14 per cent up to higher secondary level. None of the heads of the households returned as graduate or above (Table 7.5).

7.6 Households according to the size of farms

According to the land owned there returned 22 marginal and 24 small farmers. The medium farmers numbered 40 and among them 23 owned land between 2-4 hectares and 17 between 4-10 hectares. The large farmers constituted smallest size of 14 households and possessed land more than 10 hectares each. But these large farmers occupied 54.63 per cent of the total land. The medium size farmers covered 36.25 per cent. These two categories of farmers left out only 9.99 per cent of the total land which was shared by the small farmers with 6.91 per cent and marginal farmers with 2.21 per cent land (Table 7.6).

Table 7.5 Details of educational levels of the heads of the sample households

Educational level	Number of Households								
	Dhar district			Raipur district			Total		
	Parti-cipants	Non-parti-cipants	Total	Parti-cipants	Non-parti-cipants	Total	Parti-cipants	Non-parti-cipants	Total
Below Primary	7	-	7	20	4	24	27	4	31
Primary	5	-	5	9	1	10	14	1	15
Middle (VIII)	7	2	9	2	1	3	9	3	12
High School	5	4	9	2	-	2	7	4	11
Intermediate	1	-	1	-	-	-	1	-	1
Total Literate No	25	6	31	33	6	39	58	12	70
%	62.50	60.00	62.00	82.50	60.00	78.00	72.50	60.00	70.00

Table 7.6 Distribution of households according to the size of farms

Farms (in hectares)	Dhar district				Raipur district				Total			
	Parti-cipants (No.)	Non-parti-cipants (No.)	Total No.	Total %	Parti-cipants (No.)	Non-part-cipants (No.)	Total No	Total %	Parti-cipants No	Parti-cipants %	Non-parti-cipants No.	Non-parti-cipants %	Total No.	Total %
Marginal (Less 1.00)	8	1	9	18.00	10	3	13	26.00	18	22.50	4	20.00	22	22.00
Small (1.00-2.00)	9	1	10	20.00	9	5	14	28.00	18	22.50	6	30.00	24	24.00
Semi-medium (2.00-4.00)	6	3	9	18.00	12	2	14	28.00	18	22.50	5	25.00	23	23.00
Medium (4.00-10.00)	8	2	10	20.00	7	-	7	14.00	15	18.75	2	10.00	17	17.00
Large (10.00-+)	9	3	12	24.00	2	-	2	4.00	11	13.75	3	15.00	14	14.00
Total	40	10	50	100.00	40	10	50	100.00	80	100.00	20	100.00	100	100.00

7.7 Land utilisation

The sample farmers owned 466.48 hectares land, of which 418.28 hectares or 89.67 per cent was actually cultivated. Land utilization under different categories of farms has indicated that the marginal farmers cultivated almost entire area (99.03 per cent) due to their pressing needs. More or less similar situation was reported from the small farmers who cultivated 96.59 per cent of the area owned by them. The semi-medium farmers cultivated 92.62 per cent and that medium size farmers 88.84 per cent of the land owned. The large farmers did cultivation on 87.95 per cent of the area under their ownership. It shows some relationship with the size of farms. Proportion of area cultivated has been decreasing with the increase in the size of land holdings. No significance difference existed between the participating and non-participating farmers (Table 7.7).

7.8 Livestock on farm

The livestock kept on farm were of local breed and included cattle, buffaloes and goats. These animals were indespensable due to their manifold uses in agriculture as well as in the supplementation of food requirements of milk, butter and meat. There returned 858 livestock in the sample and among them draught animals including bullocks and he buffaloes covered 27.04 per cent. The milch animals like Cows and Buffaloes, were in larger number and these comprised nearly 37.00 per cent of the total livestock population. The cow & buffaloe young stock constituted 31.59 per cent and the goats 4.42 per cent of the total livestock.

Table 7.7 Land owned and Area Cultivated

Farms (in hectares)	Dhar district				Raipur district				Total				Total		
	Participants		Non-Participants		Participants		Non-Participants		Participants		Non-Participants				
	Area owned	Area Cultivated	Area owned	Area Cultivated	Area Owned	Area Cultivated	Area owned	Area Cultivated	Area owned	Area Cultivated	Area owned	Area Cultivated	Area owned	%	Area Cultivated
Marginal (less 1.00)	2.65	2.65	0.50	0.50	4.72	4.62	2.43	2.43	7.37	7.27	2.93	2.93	10.30	2.21	10.20 (99.03)
Small (1.00-2.00)	12.45	11.65	1.60	1.30	11.32	11.32	6.85	6.85	23.77	22.97	8.45	8.15	32.22	6.91	31.12 (96.59)
Semi-medium (2.00-400)	15.06	11.83	13.80	12.30	34.07	34.07	5.23	4.93	49.13	45.90	19.03	17.23	68.16	14.61	63.13 (92.62)
Medium (4.00-10.00)	49.65	42.43	16.10	12.05	35.21	35.21	-	-	84.86	77.64	16.10	12.05	100.96	21.64	89.69 (88.84)
Large (10.00-+)	161.10	134.80	49.00	44.60	44.74	44.74	-	-	205.84	179.54	49.00	44.60	254.84	54.63	224.14 (87.95)
Total :	240.91	203.36	81.00	70.75	130.06	129.96	14.51	14.21	370.97	333.32	95.51	84.06	466.48	100.00	418.28 (89.67)

On an average a farmer kept 8.6 livestock on the farm. This figure in Dhar district was 9.8 and in Raipur district 7.3 livestock per household. The size of the livestock found increasing with the increase in the size of farm. On an average a marginal farmer kept 3.18 animals, a small farmer 5.08 animals and semi-medium 6.30 animals. The size of animals was reported sharply increased in the case of medium and large farmers who on an average had 14.35 and 19.79 animals per household respectively (Table 7.8).

7.9 Availability of fodder

Requirements of fodder at present were met out from crop residues, green fodder grown on own farms, grasses and trees on the community land and the area under forest and also by grazing livestock in the forest land. Among the 100 sample farmers, 11 of them did not possess livestock. An analysis of dependence of 89 households has indicated that they were largely dependant on crop residues and also on green fodder raised on own farms. The community land and the forest were used during a few months for grazing purposes when crops were standing on the farm. There were 71 farmers who met the requirements of fodder for more than six months from crop residues while this phenomena did not appear with other sources of fodder supply. The community land, forest land and forest grazing land were used by a small group of farmers generally less than 4 months to supplement the requirements of fodder to their animals(Table 7.9).

Table 7.8 Livestock kept on farm

Particulars	Dhar district						Raipur district						Total	
	Below 1 Hect.	1-2 Hect.	2-4 Hect.	4-10 Hect.	10 & above	All	Below 1 Hect.	1-2 Hect.	2-4 Hect.	4-10 Hect.	10 & above	All	No.	%
1. Draught Animals	6	12	13	36	59	126	6	20	32	26	22	106	232	27.04
A. Bullocks	6	12	13	35	59	125	4	8	10	14	12	48	173	20.16
B. He Buffaloes	-	-	-	1	-	1	2	12	22	12	10	58	59	6.88
2. Milch-Animals	15	15	12	73	96	211	11	22	32	24	17	106	317	36.95
A. Cows	9	11	7	47	58	132	11	20	26	20	12	89	221	25.76
B. Buffaloes	6	4	5	26	38	79	-	2	6	4	5	17	96	11.19
3. Young stocks	7	10	10	56	59	142	18	18	40	29	24	129	271	31.59
4. Goat	6	6	-	-	-	12	1	19	6	-	-	26	38	4.42
Total :	34	43	35	165	214	491	36	79	110	79	63	367	858	100.00
Average cattle/H.H.	3.8	4.3	3.9	16.5	17.8	9.8	2.8	5.6	7.9	11.3	31.5	7.3	8.6	

Table 7.9 Availability of fodder during the year

No.of Months	Dhar					Raipur				
	Crop resi-dues	Green fodder (own land)	From Commu-nity land	From forest land	From forest grazing land	Crop resi-dues	Green fodder (own land)	From commu-nity land	From forest land	From forest grazing land
1	1	-	1	-	-	-	1	4	-	-
2	3	18	9	7	1	-	13	3	1	-
3	2	6	-	1	-	-	20	-	-	1
4	1	11	1	1	1	1	9	1	1	1
5	2	1	-	1	-	1	1	-	-	1
6	5	1	3	-	-	2	-	-	-	-
7	6	-	1	-	-	5	-	-	-	-
8	15	-	-	-	-	9	-	2	-	-
9	1	-	1	-	-	15	-	-	-	-
10	7	-	1	-	-	10	-	-	-	-
11	-	-	-	-	-	1	-	-	-	-
12	2	-	-	1	-	-	-	-	-	-
Total	45	37	17	11	2	44	44	10	2	3

Table continued.....

Table 7.9 continued.....

Both				
Crop residues	Green fodder (own land)	From community land	From forest land	From forest grazing land
1	1	5	-	-
3	31	12	8	1
2	26	-	1	1
2	20	2	2	2
3	2	-	1	1
7	1	3	-	-
11	-	1	-	-
24	-	2	-	-
16	-	1	-	-
17	-	1	-	-
1	-	-	-	-
2	-	-	1	-
89	81	27	13	5

7.10 Trees on Farms

To meet the requirements of fruits to supplement the human food, the fodder for animals, wooden fuel for energy consumption and timber for building purposes the farmers had trees on their farms. There were 2432 trees owned by the farmers. Among them 54.39 per cent were fruit trees and 54.61 per cent non-fruit trees. The fruit trees mainly returned from Dhar district and these largely included date and mangoes. While trees like sitaphal, banana, guava, lemon and mahua were also reported. The non-fruit trees were largely grown in both the districts and mainly included the Babul which alone accounted for 45.11 per cent of the total trees. The other non-fruit trees returned were Palas, Sagon, Neem, Kahua, Pipal and Bargad.

On an average a farmer owned 24.3 trees. This figure was larger in Dhar district where a farmer owned 31.0 trees as against 17.7 in Raipur district. The number of trees was also reported increasing with that of the increase in the size of farm. A marginal farmer in Dhar district possessed 5.4 trees while a large owned 83.7 trees. In Raipur district a marginal farmal had 5.1 trees on the farm and this figure for a large farmer was 53 trees (Table 7.10).

7.11 Income from plants & trees

During the reference year the farmers obtained tree products worth Rs.481.03 per household. Of this, 29.69 per cent they consumed in the form of fuel wood, 20.79 per cent as building material, 30.30 per cent in the form of fruits and 19.23 per cent as grass and green fodder for animals.

Table 7.10 Trees on farms

Species (Vernacular S.No. name)	No. of Trees in Dhar district					
	Below 1 Hect.	1-2 Hect.	2-4 Hect.	4-10 Hect.	10 & above	Total
A. Fruit Trees						
1. Date	-	6	-	7	628	641
2. Mango	41	48	17	65	150	321
3. Sitaphal	-	24	-	-	-	24
4. Banana	-	15	-	8	-	23
5. Guava	-	2	3	10	2	17
6. Lemon	-	12	2	1	1	16
7. Mahua	-	3	-	10	2	15
8. Other trees	5	3	1	11	2	22
Sub Total	46	113	23	112	785	1079
B. Non-fruit trees						
1. Babool	-	18	32	58	217	325
2. Palas	-	-	25	35	-	60
3. Sagon	-	5	40	-	-	45
4. Neem	-	5	-	-	-	5
5. Kahua	-	-	-	-	-	-
6. Pipal	1	1	1	11	2	16
7. Banyan	2	1	2	6	-	11
8. Other trees	-	1	-	7	-	8
Sub Total	3	31	100	117	219	470
Grand Total	49	144	123	229	1004	1549
Average per H.H.	5.4	14.4	13.7	22.9	83.7	31.0

Table 7.10 continued.....

No.of Trees							
Raipur district						Grand Total	%
Below 1 Hect.	1-2 Hect.	2-4 Hect.	4-10 Hect.	10 & above	Total		
-	-			-	-	641	6.36
1	2		-	-	3	324	13.32
-	-	-	-	-	-	24	0.99
-	-	-	-	-	-	23	0.94
2	-	4	-	-	6	23	0.94
1	-	2	-	-	3	19	0.78
-	-	-	-	-	-	15	0.62
2	2	8	1	-	13	35	1.44
6	4	14	1	-	25	1104	45.39
49	137	184	345	57	772	1097	45.11
-	-	2	-	18	20	80	3.29
-	-	-	-	-	-	45	1.85
5	1	2	2	24	34	39	1.60
5	-	5	-	7	17	17	0.70
-	-	-	-	-	-	16	0.66
-	-	-	-	-	-	11	0.45
1	1	12	1	-	15	23	0.95
60	139	205	348	106	858	1328	54.61
66	143	219	349	106	883	2432	100.00
5.1	10.4	15.6	49.9	53.0	17.7	24.3	

Average income from trees per household in Dhar district was Rs.474.36 and in the Raipur district Rs.487.70 per annum. However of the total income, 41.18 per cent was comprised by the fruit trees and 58.82 per cent by non-fruit trees during the year (Table 7.11).

7.12 Annual fuel consumption

The source of energy among the sample households included cow dung, fuel wood, crop residues, gobar gas, kerosene oil, coal cooking gas and electricity. Among these first two were prevalent and covered 64.05 per cent of the total expenditure incurred on energy requirements. On an average a household required consumption of energy worth Rs.858.10 which included 33.59 per cent fuel wood, 30.46 per cent cow dung cakes, 13.72 per cent kerosene oil and 11.64 per cent electricity. The crop residues supplemented energy to the extent of 8.06 per cent while other sources of energy like gobar gas, cooking gas and coal had an insignificant consumption among the households. In both the districts cow dung and fuel wood appeared in the larger size and kerosene and electricity also received considerable consumption while other sources had negligible consumption in both the districts. However, on an average a household in Dhar district consumed energy worth Rs.918.80 during the year while this figure in Raipur district was smaller and it was Rs.797.40. As regards the mode adopted for obtaining energy nearly 50 per cent was acquired from the self produced sources like cow dung, fuel wood and crop residues. Nearly 44 per cent energy was purchased. The forest also contributed 6.63 per cent of the total energy consumption. In Dhar the farmers were largely dependent, on purchased energy to the extent of 53.22 per cent while in Raipur district on self-produced one to the extent of 56.61 per cent of the energy consumed during the year (Table 7.12).

Table 7.11 Income from tree products

S. No.	Existing species (Vernacular name)	Value in Rs. Dhar district					
		Fuel	Fruits	Timber	Grass	Green fodder	Total
A.	Fruit trees						
1.	Date	-	45.00	-	-	50.00	95.00
2.	Mango	1420.00	12150.00	-	728.00	930.00	15228.00
3.	Sitaphal	-	50.00	-	-	-	50.00
4.	Banana	-	60.00	-		-	60.00
5.	Guava	-	165.00	-		-	165.00
6.	Lemon	-	120.00	-	-	-	120.00
7.	Mahua	-	1225.00	200.00	700.00	800.00	2925.00
8.	Other trees	380.00	480.00	-	-	-	860.00
	Sub Total	1800.00	14295.00	200.00	1428.00	1780.00	19503.00
B.	Non-fruit trees						
1.	Babool	1765.00	-	1350.00	100.00	300.00	3515.00
2.	Palas	100.00	-	-	-	-	100.00
3.	Sagon	-	-	-	-	400.00	400.00
4.	Neem	-	-	-	-	-	-
5.	Kahua	-	-	-	-	-	-
6.	Other trees	-	-	200.00	-	-	200.00
	Sub Total	1865.00	-	1550.00	100.00	700.00	4215.00
Grand Total		3665.00	14295.00	1750.00	1528.00	2480.00	23718.00
	%	7.62	29.72	3.64	8	5.16	49.31

Table continued.....

Table 7.11 continued.....

Raipur district						
Fuel	Fruits	Timber	Grass	Green fodder	Total	Grand Total
-	-	-	-	-	-	95.00 (0.20)
-	190.00	-	25.00	-	215.00	15443.00 (32.11)
-	-	-	-	-	-	50.00 (0.10)
-	-	-	-	-	-	60.00 (0.12)
-	50.00	-	-		50.00	215.00 (0.45)
-	-	-	-	-	-	120.00 (0.25)
-	-	-	-	-	-	2925.00 (6.08)
-	40.00	-	-	-	40.00	900.00 (1.87)
-	280.00	-	25.00	-	305.00	19808.00 (41.18)
8270.00	-	5400.00	1790.00	3380.00	18840.00	22355.00 (46.47)
500.00	-	-	-	-	500.00	600.00 (1.25)
-	-	-	-	-	-	400.00 (0.83)
1100.00	-	700.00	-	-	1800.00	1800.00 (3.74)
200.00	-	1800.00	-	-	2000.00	2000.00 (4.16)
550.00	-	350.00	40.00		940.00	1140.00 (2.37)
10620.00	-	8250.00	1830.00	3380.00	24080.00	28295.00 (58.82)
10620.00	280.00	8250.00	1855.00	3380.00	24385.00	48103.00
22.07	0.58	17.15	3.86	7.03	50.69	100.00

Table 7.12 Annual fuel consumption of energy in rupees

Source of energy	Dhar district						Raipur district					
	Self-produce	Forests	Purchased	Total	%	Average	Self-produce	Forests	Purchased	Total	%	Average
Cow dung	11750.00	750.00	849.00	13349.00	29.06	267.00	9530.00	1600.00	1660.00	12790.00	32.08	255.80
Fuel wood	3360.00	850.00	10500.00	14710.00	32.02	294.20	9855.00	2490.00	1770.00	14115.00	35.40	282.30
Crop residues	3380.00	-	350.00	3730.00	8.12	74.60	3185.00	-	-	3185.00	7.99	63.
Cobar gas	1400.00	-	-	1400.00	3.05	28.00	-	-	-	-	-	-
Kerosene oil	-	-	7068.00	7068.00	15.39	141.35	-	-	4702.00	4702.00	11.79	94.05
Coal	-	-	50.00	50.00	0.11	1.00	-	-	-	-	-	-
Cooking gas	-	-	720.00	720.00	1.57	14.40	-	-	-	-	-	-
Electricity	-	-	4912.00	4912.00	10.68	98.25	-	-	5076.00	5076.00	12.74	101.55
Total :	19890.00 (43.30)	1600.00 (3.48)	24449.00 (53.22)	45939.00 (100.00)	100.00	918.80	22570.00 (56.61)	4090.00 (10.26)	13208.00 (33.13)	39868.00 (100.00)	100.00	797.40

Table continued....

Table 7.12 Annual fuel consumption of energy in rupees

Continued table.....

Source of energy	Both					
	Self produce	Forests	Purchased	Total	%	Average
Cow dung	21280.00	2[illegible]0.00	2509.00	26139.00	30.46	261.40
Fuel wood	13215.00	3340.00	12270.00	28825.00	33.59	288.25
Crop residues	6565.00	--	350.00	6915.00	8.06	69.15
Gobar gas	1400.00	--	--	1400.00	1.63	14.00
Kerosene Oil	--	--	11770.00	11770.00	13.72	117.70
Coal	--	--	50.00	50.00	0.06	0.50
Cooking gas	--	--	720.00	720.00	0.84	7.20
Electricity	--	--	9988.00	9988.00	11.64	99.90
	42460.00 (49.48)	5690.00 (6.63)	37657.00 (43.89)	85807.00 (100.00)	100.00	858.10

CHAPTER VIII

BENEFITS DERIVED FROM SOCIAL FORESTRY

Since the foremost objective of the social forestry was to make people tree conscious and to improve the socio-economic conditions of the people particularly the weaker sections of the society, the tribal people who dwell in the forests. Thus the social forestry programme included the number of activities meant for individual betterment of the poor people. These activities included distribution of plants and seed packets and development of nurseries. In addition, community plantations were also aimed to provide employment, grass or green fodder for animals, timber for buildings and wooden fuel. Benefits derived under these activities by the farmers have been classified as -

i) Benefit derived from the schemes meant for individual betterment.

ii) Benefit derived from the community plantation works.

8.1 Benefit from individual betterment schemes:

8.1.1 Distribution of plants

8.1.1.1 Plants per household

Under social forestry programme the sample farmers numbering 80 were distributed 3125 plants which means on an average a farmer received 39 plants. This figure in Dhar district was 48 and in Raipur district 30plants per household. Among these households, 42.50 per cent households were given 7 plants each, 26.25 per cent household 19 plants each, 18.75 per cent households 34 plants each, 5.00 per cent households 97 plants each and remaining 7.50 per cent households received nearly 263 plants each. These plants were distributed free of cost and the farmers were also provided guidance about the plantation and rearing of plants(Table 8.1)

Table 8.1 Distribution of plants per household

No.of plants distributed	Dhar district		Raipur district		T o t a l		
	No.of H.H's	No.of plants received	No.of H.H's	No.of plants received	No.of H.H's	No.of plants received	Plants per H.H's
below 10	19	127	15	112	34	239	7.03
11-25	10	204	11	201	21	405	19.29
26-50	5	205	10	310	15	515	34.33
51-100	2	189	2	200	4	389	97.25
101 & above	4	1200	2	377	6	1577	262.83
Total	40	1925	40	1200	80	3125	39.06

8.1.1.2 Plants and size of holding

Since development of poor sections was given prime importance, all efforts were made to supply plants mainly to the poor people particularly the agricultural labourers, marginal farmers and small farmers but the large farmers obtained large number of plants and the marginal farmers obtained smallest number of plants per household in view of their resources at their command. A marginal farmer on an average obtained 15 plants, a small farmer 20 plants, a medium size farmer particularly the semi-medium and medium size farmer 49 plants and the large size farmer 82 plants per household. It shows some relationship with the size of farm. The distribution of plants per household has been increasing with the size of farms. The rearing of plants has given a different picture. The small size farmer particularly the marginal and small size farmer were able to provide much care to the plants and the survival rate among them was as high as 74.44 per cent among marginal farmers and 50.00 per cent among small farmers. These figures among the other categories of farmers were reported comparatively very low as 34.60 per cent in the case of medium farmers and 33.00 per cent among the large farmers. Thus survival of plants has been decreasing with the increase in the size of farms (Table 8.2).

8.1.1.3 Species and plants distributed

Both fruit and non-fruit plants were given due consideration for distribution depending upon on the local needs and likings of the people. Fruit plants included mango, guava, amla, lemon, jack fruit and papita. Non-fruit species covered bamboo, sheesham, susbalia, siras, sagon, subabool, neelgiri, karanj, kahwa and gulmohar. In all 17 species of plants were distributed and among them mango, guava, bamboo and subabool were largely distributed

Table 8.2 Size of the farm and plants received

Size of farm (in hect.)	No.of H.Hs.	No.of plants received	Plants per H.Hs.	No.of plants survived	Survival Rate
Below 1 (Marginal)	18	266	15	198	74.44
1-2 (Small)	18	358	20	179	50.00
2-4 (Semi-medium)	18	865	48	249	28.79
4-10 (Medium)	15	739	49	309	41.41
10+ (Large)	11	897	82	296	33.00
Total	80	3125	39	1228	39.30

and these covered collectively 74.75 per cent. Among all the species largest coverage was done by mango plants with 35.49 per cent followed by subabool 14.08 per cent. The bamboo plants covered 13.50 per cent and guava 11.68 per cent. Other species worth mentioning were sheesham 6.40 per cent, kahwa 4.36 per cent, siras 4.06 per cent, susbalia 3.20 per cent and neelgiri 2.56 per cent, However non-fruit plants find prominence in the distribution with 50.62 per cent while fruit plants covered 49.38 per cent (Table 8.3).

8.1.2 Survival of plants

Fruit plants numbering 1543 were distributed and among them 489 or 31.69 per cent survived while among other plants 739 or 46.71 per cent survived out of 1582 plants distributed. As per the different species survival rate in the case of jamun and lemon was almost 100 per cent. It was 84.62 per cent in the case of sagon, 81.25 per cent in the case of papita, 68.72 per cent in the case of bamboo 51.36 per cent in subabool. Among the species including neelgiri, kahwa, amla, gulmohar, karanj, guava and mango survival rate varied between 30.21 and 43.75 per cent. Survival rate among the sheesham plants was next in order with 29.00 per cent followed by jack fruit 28.57 per cent. Among other species the survival rate of siras and susbalia was 15.75 and 10.00 per cent respectively (Table 8.3).

Survival rate varied on the basis of place of planting. The farmers planted plants at two places, namely, near the homestead and on the field bunds. Among the 3125 plants, the farmers planted 322 plants or 10.30 per cent near the homestead and 2803 or 89.70 per cent plants on field bunds. The survival rate was 61.80 per cent in the case of homestead plants while it was 36.71 per cent

Table 8.3 Species and survival of plants

Species	Dhar district		Raipur district		Total			
	No.of plants planted	Plants survived	No.of plants planted	Plants survived	No.of plants planted	percentage	Plants survived	Survival Rate
A. Fruit plants								
1. Mango	1106	335	3	-	1109	35.49	335	30.21
2. Guava	15	13	350	106	365	11.68	119	32.60
3. Jamun	2	2	-	-	2	0.06	2	100.00
4. Lemon	4	4	1	1	5	0.16	5	100.00
5. Amla	-	-	18	7	18	0.58	7	38.89
6. Jack-fruit	-	-	28	8	28	0.90	8	28.57
7. Papita	-	-	16	13	16	0.51	13	81.25
Sub-Total	1127	354	416	135	1543	49.38	489	31.69

Table continued...

Table 8.3 Species and survival plants

Continued.....

	Dhar district		Raipur district		T o t a l			
	No.of plants planted	Plants survived	No.of plants planted	Plants survived	No.of plants planted	Percen-tage	Plants survived	Survival rate
B. Non-fruit plant:								
1. Bamboo	338	254	84	36	422	13.50	290	68.72
2. Sheesham	132	37	68	21	200	6.40	58	29.00
3. Susbalia	100	10	-	-	100	3.20	10	10.00
4. Siras	115	16	12	4	127	4.06	20	15.75
5. Sagon	25	21	1	1	26	0.83	22	84.62
6. Subabool	75	51	365	175	440	14.08	226	51.36
7. Neelgiri	13	9	67	26	80	2.56	35	43.75
8. Karanj	-	-	25	9	25	0.80	9	36.00
9. Kahwa	-	-	136	59	136	4.36	59	43.38
10. Gulmohar	-	-	26	10	26	0.83	10	38.46
Sub-Total	798	398	784	341	1582	50.62	739	46.71
Grand Total	1925	752	1200	476	3125	100.00	1228	39.30

among field bund plants. This difference was mainly due to better soil and easier rearing facilities.

Among fruit plants the survival rate differ very much as it was 67.05 per cent near the homestead and 29.55 per cent on the field bunds as against this among non-fruit plants it was nearly 60.00 per cent at the homestead and 44.44 per cent at the field bunds (Table 8.4).

8.1.3 Causes of mortality

While indicating the reasons behind the mortality of the plants a vast majority of the households 66.25 per cent informed that their plants died due to the lack of watering. Water logging was reported by 10.00 per cent households. Poor soil preparation and deliverate damage caused loss of plants among 5.00 per cent each. Health of seedlings at planting, grazing, lack of weeding, diseases and pests hurts the plants in the case of remaining 13.75 per cent households. Mortality was mainly reported among the plants raised on bunds, boundaries of the fields and permanent fallow lands which were generally away from the house.

8.1.4 Distribution of seed packets

To popularize tree growing 54 households out of 80 households were also given 178 seed packets worth Rs.89.00. Among these 25 households who were supplied 88 packets worth Rs.44.00 belonged to Dhar district while remaining 29 households which were supplied 90 seed packets value Rs.45.00 were from Raipur district. It was done with the view that the farmers will develop their own nurseries and then transplant the plants at their desired places. For this purpose they were given guidance and other help. At the time of survey it was reported that no one developed nurseries but some of them sown these seeds directly but not a single plant came up.

8.1.5 Purpose of individual plantations

The participants were asked to express the main purpose behind the planting of the plants obtained by them. Among them the largest section covering 47.50 per cent informants took up this plantation job to meet the demands of fuel wood and 38.13 per cent households did it to earn money from sale of fruits, timber for building purposes and woolen fuel as and when become grown up. The considerable number of 7.37 per cent informants planted plants to meet the requirements of green fodder. Nearly 5.00 per cent informants did it for ornamental purposes.

8.1.6 Location of plantation

The fallow land, cropped area, bunds and boundaries of the fields and homestead were reported to be the places of planting of the plants. The majority of the people, 62.50 per cent, planted the social forestry plants on the bunds and boundaries of their fields. Permanent fallow land was choosen by 12.50 per cent informants. A section of 25.00 per cent households planted the plants in the homestead area. Among all these, plantation around homestead was thought to be more desirable being easier from all angles including protection, weeding, watering and protection against animals.

8.1.7 Benefits derived from nurseries

With a view to provide direct economic help, the people from weaker sections were motivated to develop nurseries to supply the plants to the social forestry plantations at the rate of 50 paise per plant. Under this programme the households voluntarised to raise the nurseries on their farms were provided guidance about the technical aspects of the nurseries. They were supplied seed and polythene bags. The species which were developed in the nurseries included subabool, gulmohar, imli, neem, bamboo, neelgiri, siras seesham, mango, jamun, tendu, amaltas etc.

There were only 6 households from the sample farmers numbering 80 including 1 from Raipur and 5 from Dhar district which raised nurseries under social forestry programmes. Among these 3 households developed nurseries in 1983-84 and 3 households in 1984-85. out of 6 nurseries 5 had an area of 0.040 hectare per nursery while remaining 1 nursery was developed on a area of 0.020 hectare. It was agreed upon that each nursery of 0.040 hectares will supply 10,000 plants to the social forestry plantation at the rate of 50 paise per plant. The cost of seed and polythene bags will be deducted from this payment. The plants actually supplied by these nurseries were 30,800 plants which, valued Rs. 15,400.00. Costs covered Rs.7350.00 including Rs.4650.00 on poly-pats numbering 32400 and seed and Rs.2700.00 on fertiliser, irrigation etc. Thus on an average a farmer received 26 paise per plant as net gain from the nurseries.

As per the target these nurseries were to supply 55,000 plants and they were able to supply 30,800 plants or 56.00 per cent. Among the species siras (8700), augsti (8000) and gulmohar (4000) were largely grown while seedlings of neem (2000), bambooes (1800), mangoes (1700), jamun (1200), subabool and amaltas (1000 each), neelgiri (600), sheesham (500) and ten (300) were raised in a limited number. However subabool, bambooes, augusti and siras found wider acceptance for plantation both under social forestry works and individual farms.

8.2 Benefits derived from community plantation

Since community plantation were at the initial stage and the manifold benefits were yet at the far end. The sample household could get grass for fodder and employment to supplement their working mandays and income.

8.2.1 Fodder grass from community forests

Out of 30 households 5 were able to receive fodder grass grown in the community forests under social forestry programme. The grass supplied to these beneficiaries valued Rs.668.00. Distribution of grass was done by concerned gram-panchayat and it charged from the beneficiaries on the per bundle basis.

8.2.2 Employment

There were 19 households whose member get employment in the social forestry plantation during the reference year. They got employment for 1384 mandays and received wages worth Rs.11.028.00 during the year. On an average a participating household got employment for 72.84 mandays and received Rs.580.42 as wages during the year.

****

CHAPTER IX

KNOWLEDGE, PARTICIPATION AND OPINION

Since the social forestry programmes envisaged the involvement of the people to make them tree conscious the knowledge, participation and opinion were also studied. The informants were illiterate and generally belonged to the backward communities rating on socio-metric scales was not possible, therefore, suitable questions were framed and their answers were sought in yes or no.

9.1 Knowledge about village woodlot

Among the 100 heads of the households 93 were aware about the village woodlot and among them 40 heads heard about it before the work on woodlot started, 43 heads learned about it during the woodlot work and 22 heads after several months of completion of work of village woodlot. It was well known to the heads that the work on the woodlot was carried out by the forest department and officials like Vansevak, Forest Extension Assistant and Range Forest Officer played dominant role in the completion of work of village woodlot in their villages.

While soliciting their knowledge regarding the purpose of creating woolot, majority of the heads to the extent of 89 stated the fuel wood followed by fodder, building materials and fruits.

9.2 Participation

Participation in the community plantation was not reported much increasing as only 53.00 per cent heads attended the meeting called for discussing the matters related to the village woodlot. Among these 17 heads attended meeting called prior to the start of work in the village woodlct, 7 attended meeting after the completion of work. There were 29 heads who attended all the meetings called for this purpose.

There were 13 households from which atleast one member worked on the woodlot and they received wages for their labour. No one from the sample households neither contributed money nor labour towards the creation of village woodlot. But 10 households obtained grass from the village woodlot and 7 of them which belonged to Dhar district, paid for it and 3 which come from Raipur district got it free of cost. The sale of grass was done by the grampanchayat in consultation with the officials from social forestry department. Money obtained from the sale of grass was deposited with the grampanchayat and it utilized the money in its own way, of which the heads of the households were not aware.

9.3 Opinion & Attitudes

As regards the opinion about the different aspects of the village woodlot, 66 households stated that they were using the area covered under the village woodlot in one way or other. Among them 13 heads further stated that creation of village woodlot has put them to certain difficulties as their cattles are facing difficulties of cattle ground, grazing land and such other difficulties. However 47 households accepted it as the best use of this land as village woodlot and 26 of them also appreciated the species planted there while 21 of them suggested some other species to known, namely, kathal and mango as fruit trees and sagon and bamboo as timber trees but they did not find opportunities to convey their views to the concerned officials.

Regarding the method of distribution of forest produce, the 10 heads of the households indicated their agreement with the present method and others being not aware about the present system and did not express their views. However 27 of them said that the forest produce should be distributed to all free of cost, 15 heads

were in favour of giving it free of cost to the landless and weaker sections as against this, 36 heads were of the view that forest produce should be sold quite freely to all the villagers while 14 heads suggested that the sale should be restricted to the landless and weaker sections.

Regarding the management of village woodlot there were only 4 heads who were of the opinion that it should be taken over by grampanchayats while remaining heads were not in favour of it because there was lack of management and technical skills in the grampanchayat and it also suffered from factions and fueds. Further, the panchayat had limited funds and it will not be possible to meet the requirements of the expenses incurred to the development of village woodlot. At present it will be too early to transfer the village woodlot to the grampanchayat and most of the heads suggested that the social forestry department should continue to develop the village woodlot and as and when it becomes fully developed it may be handed over to the grampanchayat for the disposal of its products.

9.4 Individual betterment

The heads of the households were quite aware about the fact that they were facing shortages of fodder and fuel. The grazing lands, crop residues and even the purchased quantity of fodder and grass were not keeping pace with the fodder needs of the village cattle. Similarly village forests, own trees and crop residues, dung cakes were not sufficient to meet the requirements of fuel. Thus they were facing difficulties in the manifold ways to meet their requirements of energy consumption and animal fodder. Being hard pressed for fuel and animal fodder the head of households developed

keen interest about social forestry particularly the schemes related to the individual betterment. Almost all the households were aware that social forestry department is having schemes to provide help to grow trees on individual farms. For this purpose the seedlings, seed packets are supplied and social forestry department also provide guidance regarding pit formation, spacing, watering, weeding, fertilizer treatment and pest control.

There were 72 households out of 80 which participated in the social forestry programmes, were aware of about species, seedlings and seed packets. They obtained seedlings of their own choice. There were only 8 households which could not get desired species, seedlings like mango, kathal, sagon, and bamboo. Among the participating households 42 heads also received guidance from the social forestry officials regarding choice of species, methods of planting, rearing and control of diseases etc. at the time of planting of seedlings on their farms. Further 14 of them also received this help thereafter also and they also received visits from the officials time to time for this purpose.

There were 46 households which were also intending to plant trees next year and they desired to plant trees mainly required for fruits and timber needs. Such species preferred by them were mango, kathal, sagon and bamboo. There were only 34 households which did not wish to plant trees any more in the near future because they were having sufficient trees and did not have further space to plant trees any more. It was the problem of all the households to protect

the trees against stray cattle which easily hurt the plants in the absence of fencing. They were happy on the supply of seedlings and seed packets free of cost. They also appreciated the helps and guidance provided to them by the social forestry department in the development of nurseries and in purchasing the seedlings from them. It provided them considerable income to help them in the economic hardship. The free distribution of seedlings and seed packets to plant trees on the individual farms was also hailed by them and they also appreciated the readiness of concerned officials to help them in the planting of seedling, watering, weeding, fertilizer treatment and pest control etc.

To sum up the social forestry programme has become well known to the common man. People have become conscious about the trees for fodder and fuel in particular and for other uses in general. They have developed interests among themselves about tree growing and many of them participated by creating of commercial nurseries and by planting seedlings on their individual farms. They treated the programme a right step in the true direction to meet the hardships of fuel and fodder of the present and as well as of the furture.

*****

C H A P T E R - X

SUMMARY AND CONCLUSIONS

10.1 INTRODUCTION

Area under forests in India was showing decline for quite some time due to several indifferent treatments such as indiscriminate grazing, falling of trees and deforestation for cultivation. These onslaughts on forest wealth, particularly, denudation of forests caused serious problem not only of quick exhaution of forest wealth which resulted in the shortage of fuel, timber and fodder, but also posed threat to wild life. The deforestation resulted in the vagaries of weather, erratic rainfall behaviour, acute soil erosion and imbalanced ecosystem at large.

10.2.1 Outline of the study

In view of the growing in adequacies of forest wealth for multiple purposes and erratic ecosystem, the social forestry started receiving importance and it was given prime importance in the first Twenty Point Programme of the Prime Minister. The main aim of social forestry was to make people "tree conscious" so that tree growing may become a way of life of the people like that in the ancient days. It should be carried out as a social forestry movement to spread tree culture over the entire country. Its main objectives included not only to restore the ecological balance but also to meet the requirements of firewood, fodder and supply of raw material to village cottage industries. Thus it was introduced as a movement which required the involvement of rural masses particularly the weaker sections including small and marginal farmers, scheduled caste and scheduled tribe people. As envisaged in the social forestry programme, the social forests would cover waste land, community land, panchayat land, revenue land, forest land and plantations on both sides of roads, railway lines and canals. The social forests would include growing of grasses, leaf

fodder, fruit trees, fuel wood trees and trees needed for building material. Implementation of various social forestry programmes was to be carried out in such a manner that the persons from the weaker sections must be benefitted and should get gainful employment and other privileges from these activities. The programme covered free supply of seedlings of useful species and technical know-how for raising the trees and nurseries by the individuals. It was carried-out as centrally sponsored scheme on fifty-fifty basis between the Central and the State Governments.

10.2.2 Objectives of the study

The Government of India approached the Directorate of Economics and Statistics, Ministry of Agriculture to review the working of the social forestry programme so as to study the participation of the rural people in the programme and to provide facts to place the things in the proper order so that much better results may be obtained in the near future. Agro-Economic Research Centre for Madhya Pradesh, Jabalpur, was asked to undertake a study on "Management of Social Forestry in Madhya Pradesh". This study was conducted with the following objectives:-

(1) to review the working of social forestry department in Madhya Pradesh

(2) to study the implementation of different social forestry programmes.

(3) to assess the achievements made under different programmes

(4) to study the response and participation of the rural masses particularly the weaker sections, and lastly,

(5) to make suggestions for improvements

10.3 Methodology

The centrally sponsored scheme of social forestry, in all, covered 101 districts of the country and out of them, 10 districts were located in Madhya Pradesh. These districts were: Rewa, Ratlam, Indore, Bhopal, Gwalior, Jhabua, Seoni, Jabalpur, Bilaspur and Raipur. In addition, the social forestry programme of the USAID also covered 21 districts at the end of 3rd phase out of 29 districts to be covered in five phases. Under this programme among these, Dhar district was covered first and it also had maximum concentration of social forestry activities under USAID.

10.3.1 Sample

Discussions were held with the state forest officials and it was decided that the present study should cover one district from USAID districts and another district from centrally sponsored scheme. It was suggested that Dhar and Raipur districts should be selected for the present study.

The grampanchayat was the unit of social forestry programme at the grass root level and the block was the second stage ladder for channelization of social forestry activities. It was thought desirable to select two blocks from each district and one grampanchayat from each block. Thus the block and grampanchayats having maximum concentration of social forestry activities were given place in the second and third stage sample of the study. These included Tirla and Nalchha blocks in Dhar district and Fingeshwar and Tilda blocks in Raipur district. Grampanchayats selected from these blocks included Chiklya from Tirla block, Nalchha from Nalchha block, Arang from Fingeshwar block and Kota from Tilda block.

List of participant farmers from every selected gram-panchayat was prepared and twenty farmers from each grampanchayat were selected by random sampling method on the basis of size of holding. Similarly 5 non-participant farmers were chosen from every grampanchayat. Hence the study covered 100 farmers including 80 participant and 20 non-participant farmers.

Both primary and secondary data were collected by survey method on structured schedules. A separate schedule was convassed to solicit information from the sample farmers. Data were collected in four rounds and survey method was adopted to collect data from different sources. Analysis of data was done by applying simple statistical methods and the result so obtained were presented in the form of a report.

10.3.2. Reference year

For the present study the year of 1984-85 was taken as reference year and data were collected in four rounds by the end of 1985.

10.4 General Findings

10.4.1 Forest in Madhya Pradesh

(i) Forest in Madhya Pradesh occupied 32.14 per cent of the total geographical area of the state, while this figure for the country as a whole was reported 21.06 per cent. If the area under pastures, grazing lands and miscellaneous trees was also included the forest will cover nearly 40 per cent area of the state.

(ii) Forests occupied an important place in the state economy and provided second largest proportion in the total income of the state.

(iii) As per census 1971 the per capita forest area was reported 0.40 hectares but this figure came down to 0.27 hectare as per the 1981 census

(iv) Forest area in the state was inadequate and its distribution among the districts was not uniform. Out of 45 districts, 7 districts were having very high forest density which varied between 40 and 65 per cent. As against this, 6 districts were having very little area under forest which varied between 0.50 and 10 per cent.

(v) The supply of wood for building and energy purposes was reported inadequate in the case of 19 districts. There were 11 districts which were reported seriously deficit districts where supply was only up to 50 per cent of the demand. Moderate deficit districts numbered 8 where supply was 75 per cent of the demand. Marginal deficit districts were 15 where supply and demand were almost equal. State has 11 surplus districts where supply was over running the demand.

10.4.2. Social Forestry in Madhya Pradesh

(i) The importance of social forestry was recognized as early as during 1950 when Van Mahotasava programme was started. The modest start for the social forestry was made from 1976-77.

(ii) Social forestry with the new concept was taken up during the Sixth Five Year Plan when it was included in 20 point programme of the prime minister.

(ii) During 1983-85, the social forestry division completed plantation on 2,085 hectares including 1,635 hectares in Dhar district. To provide direct benefit to weaker sections 21 farmers were aided to develop nurseries and 11.24 lakh plants and 32 lakh seed packets were distributed among the people.

(iii) Under centrally sponsored scheme the plantation was carried out on 4,949 hectares for fuel wood purposes. Roadside plantation under different schemes was done on 90 road kms. in Dhar district.

(iv) Social forestry work in the sample districts was carried out on selective basis. In Dhar district social forestry work was in progress in 6 blocks and in Raipur district in 5 blocks. Actual plantation on community land was carried out on an area of 1,635 hectares in 32 villages falling under 24 grampanchayats of Dhar district. In Raipur district community plantation was done on an area of 472 hectares in 26 villages which belonged to 7 grampanchayats.

10.4.4 Availability of area for Social Forestry

The land utilization pattern of four grampanchayats selected for this study indicated that they had 785.03 hectares as community land to be covered under social forestry plantation. During 1983-85 plantation was completed on an area of 173.50 hectares or 22.10 per cent. In all, 2.29 lakh plants were planted on this area and preparation was on to cover the remaining area under community plantation in the near future. The species

planted included Bamboo, Sheesham, Karanj, Neem, Subabool, Neelgiri, Anwala. These species were selected according to the liking of the local people.

10.4.5 Survival of plants

In the selected grampanchayats in all 2,29,120 plants were planted on community land at the cost of Rs.5.99 lakhs. Survival of these plants was marked with many hardships and 80 per cent of them were to be replaced. At the time of first weeding the replacement was done in the case of 33,193 plants(14.49%). At the completion of one year another 1,01,635 plants or 44.36 per cent were replaced. During the second year the replacement was done in the case of 48,350 plants or 21.10 per cent. Thus nearly 60 per cent plants died during the first year and only 20 per cent plants cculd survive during these two years. Replacements required an additional expenditure of Rs.21,894. This means an expenditure of nearly Rs.3.00 per plant at the end of second year.

10.4.6 Trees owned by Individual Farmers

(i) To meet the requirements of human food, fodder for animals, fuel for energy consumption and timber for building purposes, the farmers were growing trees.

(ii) On an average a farmer owned 24 trees but this figure depended on the size of holdings. A marginal farmer possessed on an average 6 trees while a large farmer owned 10 times more, nearly 62 trees.

(iii) The trees owned by the farmers included 45.39 per cent fruit trees and 54.61 per cent non-fruit trees. Non-fruit trees were mainly required for fuel and timber purposes.

10.4.7 Plantation by Individual Farmers

(i) On an average a participant farmer received 39 plants under social forestry programme. There were 42.50 per cent households which received 7 plants each, 26.25 per cent households 19 plants each, 18.75 per cent households 34 plants each, 5.00 per cent households 97 plants each and the remaining 7.05 per cent households received 263 plants each.

(ii) Size of holding was given due consideration in the distribution of plants and all efforts were made to supply plants mainly to the agricultural labourers, marginal farmers and small farmers. However, these farmers accepted plants in view of their resources at their command and a marginal farmer obtained nearly 15 plants while a large farmer 82 plants. These plants were distributed free of cost.

(a) The plants distributed to the people included both fruit and non-fruit trees but among non-fruit trees the people generally asked for bamboo and subabool plants and under fruit trees mango and guava plants were commonly preferred.

(b) In all, the participant farmers obtained 1,543 fruit plants and 1,582 other plants. In the former group 489 or 31.69 per cent fruit plants survived while in the latter group survival rate was higher with 46.71 per cent. The survival rate depended on the resources of the farmer and place of

plantation. The plants planted near the homestead had higher survival rate of 61.80 per cent due to easy management as against this the plants planted over field bunds had a very low rate of survival of 36.71 per cent.

(c) Lack of watering facility was the main cause for the loss of plants in the case of 66.25 per cent households. Water logging, stray cattle, poor soil, preparation and unhealthy seedlings were other reasons of plant mortality. Plantation by the individual farmers was taken up mainly on field bunds. A small section of 25 per cent households planted trees near the homestead. A few farmers also covered some of their permanent fallow land under tree plantation.

10.4.8 Distribution of seed packets among the Individuals

(1) Among the participant farmers 67.50 per cent were given 178 seed packets free of cost to develop kitchen nurseries for their own plantation. For this purpose they were provided guidance to develop the nursery and for the transplantation of seedlings.

(2) None of the farmer actually developed nursery but they directly applied seed to grow at the plantation area itself. No plant come up by direct sowing method.

10.4.9 Development of nurseries on Individual Farms

(a) To provide direct economic help marginal and small farmers were motivated to grow nurseries to supply

plants to the social forestry plantations at the rate of 50 paise per plant. There had been only 6 households or 7.50 per cent out of 80 households which participated in the nursery programme.

(b) Each nursery was to cover 0.040 hectare having capacity to supply 10,000 plants to the social forestry plantation at the rate of 50 paise per plant. For this purpose farmers were given seed and polythene bags. The cost of these things were deducted while making payment to the farmers. However, on an average a farmer received 26 paise per plant as net gain after deduction of all costs.

(c) As per target these nurseries were to supply 50,000 plants but supplied 30,000 plants or 56 per cent.

(d) The species grown in the nursery included siras, augasti, gulmohar, neem, bamboo, mango, jamun, subabool, amaltas, neelgiri, sheesham and tendu.

10.4.10 Supply of Fodder Grass from Community Plantations

Fodder grass was also grown in the area of community plantation. Panchayats were asked to supply grass for animal fodder to the individuals. It was reported that panchayats managed distribution of these grasses on payment basis and charged from the people on per bundle of grass.

10.4.11 Employment in Social Forestry Programmes

(1) Social forestry also benefitted the weaker sections by providing employment under different tree growing operations including digging of trenches, pit

holes, soil preparation, planting, weeding, replacement, watering and watching.

(2) Among the participant farmers 19 households were benefitted by getting employment for 1,384 man days and received Rs.11,028 as wages. On an average a household got employment for 72.82 man days and got Rs.580.42 as wages during the year.

10.4.12 Knowledge, Participation and Opinion

(i) Among the 100 heads of the households 93 were having knowledge about the social forestry programmes particularly about the community plantation, distribution of plants and seed packets distributed free of cost and nursery programme.

(ii) Most of them understood that social forestry activities were carried out mainly to supply fuel wood, fodder and building material to the people on marginal payment basis so that the government forests may totally be protected.

(iii) Nearly 53 per cent households were reported participating in the social forestry programmes by attending meetings, taking employment and grasses from the community plantation.

(iv) It was the general opinion of the people that social forestry is very urgently needed but its plantations will cause them certain hardships such as area used for grazing is now being covered under community plantation and a day will come

when there will be no land where village cattle could be assembled. They also pointed out species which were not useful to them. Such species generally belonged to the ornamental category.

(v) They suggested that hard trees like amla, ber, kaitha, mahua, bamboo, sagon, mango, sheesham, subabool should be grown under social forestry programme. Those species will be much beneficial to them.

(vi) Broadly speaking social forestry programme was getting popularity among the rural masses. People had become conscious about the trees needed for fruit, fodder, fuel and for building purposes.. They had realised that the tree growing is a must for the smooth functioning of their day to day life which is mainly dependent on trees and their products to fillful the manifold needs.

10.5 CONCLUSIONS

The study brings out the following conclusions for consideration of the policy makers :

1. Steps should be taken to bring more waste and barren lands under social forestry schemes.

2. Bank Finance has to be provided to raise forestry in dry and unproductive lands.

3. Large farmers need to be discouraged from diverting irrigated lands to social forestry.

4. Message of social forestry must reach every household. For this purpose suitable extension services need to be created at different levels.

5. Social forestry should be converted into people's movement and talented persons should be attracted to trigger people's participation.

6. A large net work of nurseries managed by farmers, schools or departments should be created so as to have a nursery within a radius of 5 Kms. of each village atleast in fuel deficient districts.

7. Panchayats and village schools can play an important role in this activity. School forestry should be included in the list of local development works undertaken through panchayats and expenditures on this account should be reimbursed in full.

8. The Directorate of social forestry must have separate cadres to ensure continuity of efforts. The basic function of the Directorate should be to make people tree conscious to help others to raise plantation rather than doing it themselves.

9. The cost of fencing and protection measures is depressingly high. In spite of this expenditure, the plantations lack after care. Research is needed to evolve low cost fencing which can also act as psychological barrier. Follow up action needs to be strengthened.

10. Fuelwood in our countryside has been used most inefficiently. Promotion of energy saving devices should be an integral part of the social forestry programme.

11. A substantial amount of funds need to be earmarked for social forestry in the seventh five year plan.

12. Free supply of seedlings should be restricted only to the economically weaker sections of the households having some waste and sub-marginal lands.

13. The participation of institutions, public bodies, government departments in the programme is too meagre to be mentioned. They should be encouraged to take up the plantations in the vast compounds by suitable measures.

14. Priority to research into the types of forest species that can be grown on various types of uncultivated lands including current fallows and permanent fallow lands should be given importance.

15. By nature women get immence satisfaction in creation and rearing the children. This comes into their habit. They express same tender feeling and show same care while they plant tree and subsequently look after it. Thus they give baby like treatment to newly planted seedling and this habit provides better success of plantation programme. Advantage to this habit should be taken in social forestry programme as much as possible.

16. Addaptability of women is always considered to be better as against men. Hence participation of women in the social forestry programme should be achieved by creating jobs of their likings. Their participation may be streamlined from the plantation of trees to the use of fuel wood economically. This could be achieved through the proper extension services.

*****