CHAPTER VI

SUMMARY OF FINDINGS, CONCLUSIONS AND SUGGESTIONS
Social forestry program in India has grown rapidly both in size and extent and has achieved national and international recognition. India became an international leader in social forestry field. The program offered one of the new pragmatic, socio-economic and environment oriented approaches of addressing the twin problems of degradation of communal and public land development. The program also provides opportunities for rural poor to obtain their subsistence needs of fuel, fodder, small timber and wage security through participation in resource management and obtain benefits. Though the program has succeeded in terms of physical achievements, yet the potential benefits of the program could not reach rural poor as envisaged due to a complex set of social, political, economic, technological and policy factors often policies followed by the Government have turned out to be counter productive. Many constraints have come to light in the process of program implementation in the area of policy formulation, legal, administrative, economical, managerial, social, institutional and technological.

The present study covering areas of the awareness of the program among the people, planning, plantation management problems of finance, marketing etc has identified the achievements and inadequacies in the implementation of the social forestry in the study area. The findings relate to the social forestry plantations managed by both village panchayats and the individual formers in the five taluks of the district covered by the study. The findings and conclusions along with a few suggestions have been presented here.

1. Forests constitute one of the largest eco-systems of the world. They have a remarkable capacity of self-regeneration and proliferation. India has a total landmass of nearly 329 million hectares of which about 140 million hectares is under cultivation. The remaining 189 million hectares is uncultivated
Most of the uncultivated land in India is degraded or wasteland and is owned collectively by village community/Panchayats and by government. These lands are known as village common lands and include most of the 80 million hectares of land classified as culturable waste, permanent pastures and other grazing lands, miscellaneous tree crops and groves, follow lands and barren and uncultivable lands.

2. The degradation of village common lands is traced to their collective or common ownership. A Social desirable use of degraded village common land is to grow those species of tree which can provide fuel, fodder, timber and other useful minor produce to meet the requirements of local people who collectively own them.

3. The social forestry programme initiated in India offered one of the new pragmatic, socio-economic and environment oriented approaches of addressing the twin problems of degradation of communal and public land resources from excessive wood cutting as well as grazing and rural development.

4. The programme implementation is complex due to policy and institutional constraints apart from technological and socio-economic limitations. The programme shall have to be structured with the design of local institutional arrangements that improve the access to such resources and ensure that the benefits accrue to the rural poor. Any future social/community programme in the country shall have to dovetail itself with this concept.
5. Social forestry is perceived as a concept, a programme and a mission which aims at ensuring/ providing ecological, economic and social security to the people particularly to the rural masses more so to the tribals and those down trodden who live below the poverty line, particularly by involving the beneficiaries right form the planning stage to the harvesting stage.

6. Social forestry envisages the use of community lands, individual holdings and other public lands, denuded/degraded lands for producing what the dependent communities need and for environmental purposes. It aims at mixed production of wood, fiber, fodder, grass, fruits and other raw materials for self consumption and cottage industry and if surplus for sale. Here government control is minimal though financial and technical support is assured.

7. Social forestry is perceived differently and different terms are used interchangeably to define social forestry viz social forestry, community forestry, farm forestry, urban forestry, recreation forestry, environmental forestry, vanamahotsava, arboriculture, tree farming, forest farming small scale forestry, village wood lots, bio aesthetic plantation, energy plantations three dimensional forestry, tree crops and livestock forestry for 4F (fuel, forage, fodder, fertilizer) agro forestry etc.

8. Development of social forestry programme is planned through different type of plantation activities viz

10. Major characteristic features of social forests relate to the following:

a. involvement of the beneficiaries right from the planning stage.

b. Identification of the beneficiary based on the consumption goods

c. Use of community lands

d. Mixed production system

e. Limited Government control

f. Contribution of farmers through panchayats

11. The concept of social forestry is traced back to the days of Lord Buddha and Mahaveer in the early period. Sir D. Brandis the first Inspector General of Forests Visualized the role for village forests as early as 1873. The Indian Forest Act 1878 provided for village forests Government of India made recommendation in 1883 for acquisition of village lands for creation of village forests. Dr. J.A. Voelekar recommended for creation of "fuel and fodder reserves" at the end of 19th century.

12. Royal commission on Agriculture in India of 1928 advocated for creation of village forests. The Indian Forest Policy of 1952 laid great emphasis on creating new village forests.

i. National Committee on Agriculture in 1976 recommended for widespread adoption of social forestry aimed at growing and meeting the future need of fuel wood, fodder and small timber. The commission suggested specific guidelines for
implementation of various models under social forestry programme.

13. The participants in the social forestry included landless and resourceless persons, small farmers, large farmers, panchayats, students and teachers, industrial houses, cantonments, railways, village organizations, forest departments NGOs, corporations, municipal councils and town panchayats etc.

14. Forest Policy 1988 has assigned much significance to social forestry. Participators Forest Management of 1990 scheme has been notified by the Government of India for the management of restored, degraded, reserved protected forests lands. The Jawhar Rojgar Yojana has emphasized the importance of social forestry.

a. The economic benefits of social forestry included employment generation for the rural poor, and starting of small scale industries like bee keeping, soap and oil making.

b. The fuel, fodder and timber would be made available to the village community

i. Social forestry generated healthy feelings between foresters and the plantations.

ii. Poor and eroded land which is unfit for agriculture is now put to productive uses.

iii. Cash crops could be raised by interspacing

iv. Slightly acidic soils are made useful by planting certain plants like Leucaena Leuocccphala.
v. Tree plantation will slow down the speed of the floods and wind and ensure protection of crops.

vi. Social forestry will reduce pressure on natural forests

15. The success of the social forestry programme depends on the attitude of the foresters, villagers politicians and all those involved in the creation maintenance and utilization of natural resources. The rural masses should be motivated and trained for the social forestry programmes.

16. Criticisms have been levelled against the social forestry by environmentalist and other organizations about the manner in which the programme is being implemented. The criticisms centre round three main aspects viz.,

   a. the choice of the tree species

   b. the wisdom of monoculture plantations and

   c. the nature of the actual beneficiaries

17. Initiation of social forestry requires effective tackling of all the interrelated social economic and political problems prevailing in the rural society. This necessitates a comprehensive and relevant policy, administrative and technological framework which will be able to manage the programme effectively.

18. The area of planning and management of social forestry relate to the following

   a. Availability of Land for Social Forestry

   b. Utilization of surplus land

   c. Organizational Arrangement
d. Establishment of plantation

e. Distribution of Benefits and

f. Marketing of Forest products.

19. The study has revealed that maximum of 60 farmers managing forest plantation had 2.5 to 5 hectares of area under their social forestry projects. One farmer had maximum of more than 15 hectares of forest plantations.

20. All the 125 farmers covered by the study had prior preparations of taking khadds and fertilizer applications of their plantations. Majority of farmers had provided irrigation trenches. However, smaller number of the respondent farmers had resorted to protective fencing and leveling and finding of their plantations.

21. The study has revealed that 24 of the respondent farmers had started their plantations between 1997 and 1999, the other 101 respondent farmers started their forest plantation between 2000 and 2004.

22. The survival of plantation saplings was more than 75 percent in case of 97 respondent farmers and the survival rate was less than 75 percent in case of 27 respondent farmers.

   i. Inadequate water supply, inadequate care and protection of plants, inadequate guidance, inadequate experience were the major reasons for lower rate of survival of saplings in social forest plantations. Other reasons for lower rate of survival of saplings diversion of land for other purposes and natural calamity.

23. The plants start yielding the produce after 3 years according to 32 respondent farmers while maximum number of 80 farmers suggested that the maturity period of the plants was 5 years. A small number of 13 farmers mentioned the maturity period of plants at 7 years.
1. All the 125 respondent farmers have expressed the view that they determined the optimum time for collecting fuel wood small timber, and minor produce from their forest plantations.

24. All the 125 respondent farmers have agreed that they consulted the officials of the department of social forestry for profitable operation of their plantations.
   i. The areas of consulting the officials of social forestry related to prevention of diseases, optimum tree felling and sapling cycle, care and protection of plants and marketing of produce.
   ii. Maximum number of respondent farmers used pesticides and insecticides for the protection of their forest plants from pests and insects. However a smaller number of the farmers did not use these pesticides and insecticides and others felt that the use of these chemicals was not necessary.

25. Maximum number of 90 respondent farmers agreed that they experimented with new varieties of saplings. However 35 farmers did not involve themselves in such experimentation.

26. Awareness about the social forestry among maximum number of 98 farmers was attributed to promotion campaigns of social forestry department while 10 farmers attributed their awareness of the social forestry to agricultural extension workers, 7 farmers to government officials like gramsavaks etc. The other farmers mentioned the neighboring farmers engaged in social forestry, TV and Radio and friends and acquaintances as responsible for their awareness about the social forestry.

27. Better utilization of followland has led maximum number of 60 respondent farmers opting for social forestry. Possibility of additional income from fuel, fodder and small timber led to opting of social forestry in case of 20 farmers while family need of fuel and fodder was the reason for taking up social forestry in case of
18 farmers. Law income from traditional crops led 12 farmers to take up social forestry. Advice from social forestry department and inclination to try new ideas led 5 and 2 farmers respectively for taking up social forestry in the study area.

28. Planning for the social forestry was undertaken well in advance by 60 farmers covered by the study in Gadag district. The prior planning was done for 1-2 years by 12 farmers, 3-4 years by 25 farmers, 4 to 5 years by 15 farmers and for more than 5 years by 8 farmers.

   i. The implantation of the plans for development of social forestry was faced with some problems. The problems included shortage of funds, absence of guidance, shortage of saplings, shortage of skilled workers and unstable demand for the produce.

29. The results of deviations from the planned targets were corrected through some measures by the respondent farmers. These measures included additional investment, improved maintenance and supervision, improved sales realization and improved labour input.

   i. Majority of farmers made regular comparison of performance and monitoring of yield from the plantations.

30. The study has revealed that the social forestry undertaken by the farmers had favourable effects on primary and secondary crops.

31. Financial aspects of the management of social forestry plantations reveal that initial expenditure was provided by the department of social forestry in case of 98 respondent farmers. However for the other 37 farmers the initial expenditure varied from Rs.5000 to Rs.30000. The initial sources of finance related to family funds borrowing from friends and relatives, loans from banks/cooperative etc.
i. Preparatory budgets were made by majority of 10 farmers out of the 27 who used their finances initially. The budget period varied from 2 years to 5 years.

ii. The annual average expenditure on the social forestry plantations of the 125 respondent farmers varied from Rs.2500 to a maximum of Rs.35000. The results of expenditure on the farms have been favourable. There were shortfalls in both expenditure and income relating to the budget targets of the plantations.

32. The working capital need of the 125 respondent farmers were met from the family funds, borrowings from friends and relatives loans from banks and cooperatives and from the encashment of past savings and surpluses.

33. The annual average income from the plantation ranged from a minimum of Rs.5000 in case of 17 farmers to a maximum of Rs.60,000 in case of 2 respondent farmers.

34. The annual savings from the plantation income of farmers ranged from a minimum of Rs.5000 in case of 29 respondent farmers to a maximum of Rs.30,000 in case of 3 respondent farmers.

35. A substantial number of 45 farmers had ancillary income generating activity. However majority of 80 respondent farmers had no such activity. The ancillary income generating activities of the 45 farmers included sheep and goat rearing, dairying and beekeeping.

36. The financial management of the respondent farmers has not been systematic. Majority of the 102 respondent farmers have not maintained books of accounts of their transactions.

37. The marketing of surplus of the forest produce of all the 125 respondent farmers has been made to the regular customers as well as to the other buyers. Sale of small timber and fuel wood has been made to regular customers by majority of farmers. However no sales to regular customers of fodder and minor produce have been made by majority of respondent farmers.
38. Cash sales of forest produce have been made by majority of respondent farmers. A small number of farmers have sold their produce to buyers on credit basis too.

a. Stock of plantation produce is not carried by majority of farmers involved in social forestry in the study area.

39. Advance estimation of demand for the forest produce has been done by a good number of respondent farmers.

40. Majority of the farmers engaged in social forestry have been managing the plantations with the family members and they have not employed paid workers. The dependence on paid workers is minimum and marginal.

41. Social forestry in Gadag district has made moderate achievements through Panchayat institutions. The 85 sample Panchayats owned social forestry plantation's covering an area of 1910 hectares in 5 talukas of Gadag district. Gadag taluka led other 4 talukas in terms of the total area of social forestry plantations.

42. The villages in the district covered by the study had good infrastructural facilities and social amenities viz schools, high schools, colleges, health care facilities, hospitals, maternity homes, veterinary dispensaries etc. Essential services like water, supply electricity Posts, banks etc have been provided Farmers are provided with fertilizer supply roads and bus stands, new paper stands etc.

43. There are 80 Gram Panchayas in the 85 selected villages providing social forestry to the villages. The Panchayats are active in their functioning. They have been making use of the services of the officials of the departments of agriculture, animal husbandry, veterinary health, forest and social forestry for the benefits of the villagers.
44. The details regarding agriculture in the selected 85 villages provide some indications like the size of land, irrigation crops grow etc. The average size of the land in the selected villages ranged between 150 hectares to more than 450 hectares.

45. The size of irrigated land varied from a minimum of 50 hectares in 60 villages to a maximum of 301 hectares and more in 3 villages. The size of dry land varied from a minimum of 50 hectares to more than 301 hectares. The size of follow land varied from 50 hectares in 41 villages to a maximum of more than 201 hectares in 6 villages, size of community land varied from 50 hectares in 55 villages to 101-150 hectares in 7 villages in the 85 villages covered by the study.

46. Main primary crops grown in the villages covered by the study included maize, Jowar chilli, soyabean, groundnut, wheat, potato, tomato, onion, sunflower, grains, cotton tobacco and sugarcane.

47. Main second crops grown included green vegetables, groundnut, soyabean, wheat, seasonal fruits, Jowar, grains, corn, chilli, potato, flowers, sunflower, tobacco and paddy.

48. Major sources of water for primary and secondary crops are monsoon rains, canal water, lift irrigation water, well water and water from percolation tank.

49. The total number of farmers selected under the social forestry in the district was 125 of which Gadag taluka had 15 farmers, Mundargi 45, Nargund 19, Ron 23, Shirahatti 25. The total area under social forestry covered by the study in the district was 758 hectares of which Gadag had 62 hectares. Mundargi 310 hectares. Nargund 80 hectares, Ron 101 hectares Shirahatti 205 hectares.

50. The age group of farmers engaged in social forestry varied between 18-25 years (17 farmers) to 46-60 years (43 farmers). There were 103 male farmers and 22 female farmers involved in social forestry in the study area.
51. The educational status of the farmers engaged in social forestry indicate that there were 25 illiterates, 40 with 1-7th std., 30 with 8th-10th std. 20 with 11th to 12th std. Education. 5 farmers were degree holders, 2 postgraduate degree holders and 3 farmers had technical/diploma qualification.

52. Maximum of 98 respondent social forestry farmers were Hindus followed by 21 Muslims, 5 Jains and 1 Christian among the 125 selected respondent farmers. There were 77 respondents farmers belonging to general category, 23 S.C.s, 9 S.T.s, 16 OBCs, among the 125 respondents farmers.

53. A total of 93 farmers covered by the study had Kannada as their mother tongue. 17 Urdu, 7 Hindu and 9 had other languages as mother tongues.

54. The average size of the family of the farmers varied from a minimum of upto 5 members in case of 27 farmers to a maximum of more than 16 members in case of 3 farmers among the 125 selected farmers.

55. The annual income of the farmers ranged from Rs.11000 in case of 65 farmers to a maximum of Rs.50001 or more in case of 1 farmer.

56. Agriculture was the main source of family income in case of 117 farmers followed by self-employment and professional work as main source of income of 1 farmer each Agricultural employment was the main source of income in case 2 farmers and agricultural self employment in case of 4 farmers.

57. There were agricultural graduates in 2 farmers families covered by the study. It is found that 25 farmers had 2 family members engaged in agriculture 92 farmers had 3 to 4 family members 8 farmers 5-6 family members engaged in family agriculture.

58. The size of the land held by 125 respondents farmers varied from marginal to large or big sized land. Marginal land was held by 8 farmers while small holdings ere held by 9 farmers. The number
of farmers with medium size land holdings was 73 and those holding large sized land numbered 35.

59. The size of irrigated land varied from less than 2.5 acres to more than 10 acres. However 56 farmers did not have any irrigated land.

60. The size of dry land varied from less than 2.5 acres to more than 10 acres similarly the size of follow land too varied from 2.5 acres to more than 10 acres.

61. Maize was grown by 115 farmers, cotton 75 farmers, Jowar 90 farmers, groundnut 35 farmers, sunflower 55 farmers, and other cereals were grow by 37 farmers.

62. Vegetable were grown by 8 farmers seasonal fruits by 10 farmers and floriculture by 2 farmers.

63. The share of income from primary crops in the total income of the family varied from 25 percent in case of 70 farmers to 75 to 100 percent in case of 4 farmers. The share of income from secondary crops in the total income varied from 25 percent in case of 5 farmers.

64. The total geographical area of Gadag district was 465715 hectares of which agricultural land was 393285 hectares non-agricultural land 1295 hectares, forest land 32614 hectares, waste lands 19995 hectares and uncultivated land was 8193 hectares.

65. The climate of the Gadag district is classified as semiarid. The temperature varies from 41° Celsius during summer and night temperature as low as 14° Celsius during January.

66. The rainfall in the district is very substantial but very erratic and hence agriculture is unpredictable and draughts are very common.

67. There are good potential for wind energy in the district. Kappat Hills is ranked third in the potential for harnessing wind energy in the state after Baba Budangiri hills in Chikkmagalur district and Jogamatti in Chitradurga district.
68. The general information indicates that there were 11 hoblis, 307 village, 9 towns, 8 municipal councils and 110 gram Panchayats in the district.

69. The total area of the five talukas of Gadag district is 4656 sq.kms and the total population is 859000 of which male population is 436300 and female population is 422700 Rural population is 561200 and town population is 297800.

70. The forest area of Gadag district was 32614 hectares of which forest area in Gadag taluka was 1749 hectares, Mundargi 17646 hectares, Ron 276 hectares and Shirahatti had 12943 hectares of forest area.

71. The district had a total of 11628 hectares of follow land of which Gadag taluka had 1265 hectares, Mundargi 1422 hectares, Nargund 739 hectares, Ron 5120 hectares and Shirahatti 3082 hectares. The district had 10213 hectares of land used for other purposes.

72. Gadag district had 391299 hectares of net sown area, 106169 hectares of area with more than one crop. The total cultivated area was 497468 hectares

73. There were 131760 landholdings in Gadag district with a total area of 395163 hectares. Maximum number of and holdings were in small size of 1 to 2 hectares and the minimum numbers of holdings were in the size of more than 10 hectares.

74. Maximum area of cultivated land in the Gadag district was under cereals of which area under Jowar was the maximum. Area under oil seeds was substantial in Gadag district.

75. The total livestock in Gadag district was 211849 as per 1997 livestock census. Of these 190030 were of indigenous breed 3856 foreign breed, 17963 were of crossbred. The district had 206335 sheep, 122793 goats, 6036 pigns, 28991 dogs and 803 other animals.
76. The district had 61 veterinary hospitals, 20 veterinary clinics, 40 primary veterinary centres, 5 visiting clinics, 11 insemination centres and 1 polyclinic.

77. The district had 2 textile factories, 7 engineering units and 97 other units. The total number of employees in 106 factories was 7969 as on 2000-01.

78. The district had 46 commercial bank branches, 34 RRB branches, 25 cooperative banks and 5 land development banks.

79. Gadag district had 155 agricultural credit cooperative societies, 130 dairy cooperative societies, 21 housing cooperative societies, 6 marketing cooperative societies and 392 other societies.

80. Gadag district had 5 APMCs and 16 sub APMCs. Gadag taluka had maximum of 6 sub APMCs followed by Nargund, Ron and Shirhatti with 3 sub APMCs and Mundargi with 1 sub APMC. The total value of transactions in the 5 APMCs in the district was Rs. 16411.1 lakh.

81. The district had 23190 motor cycles, 1548 cars, 667 Auto rikshaws, 949 goods transport vehicles, and other vehicles.

82. Gadag district has a total length of 42 kms of broad gauge railway line, 49 kms of meter gauge line.

83. The district has total length of 273 kms of state highways, 663 kms of district roads, 941 kms of village roads, 889 kms of TDB roads, 59 kms of irrigation roads. The total road length in the district was 2755 kms. The district had 43 major road bridges.

84. Gadag district had 172 post offices, 110 telegraph offices, 47 telephone exchanges. There were 21765 telephone connections.

85. Gadag district had 706 primary schools, 167 high schools, 37 PU colleges, 27 degree colleges, 4 polytechnics, 2 engineering colleges, 4 medical colleges (Indian system) and 14 libraries.

86. The literacy rate in the district was 70.08 percent among males and 37.68 percent among females.

87. There were 9 allopathic hospitals, 1 hospital with Indian medicine system. There were 51 private hospitals, 29 Primary
Health Centres, 6 PHUs, 15 dispensaries of Indian Medical System, 5 Family Welfare Centers and 18 sub Centres.

88. The forests of Gadag district have an area of 338.498 kms accounting for nearly 7.2 percent of total geographic area.

89. The major forest type occurring in the district is the Southern Tropical Thorn and Sirut Forest Department of the state Govt. looks after the administration of Gadag forest. The department looks after the social forestry section also.

90. The district has more than 60 sawmills. The non-timber forest produce includes medicinal plants, tamarind, leaves of Tumri, fruit, Nelli etc. leaves of Ichal are used for basket making, and broom making.

91. Revenue from non-Timber forest produce has gone down from Rs.621238 in 1997-98 to Rs. 224095 in 2000-01.

92. The Gadag Forest Division has an area identified as Medicinal Plants Development Area (MPDA). A Village Forest Committee is formed at Kadakol which is active in preservation and development of the area. The district forests support a fair amount of wild life.

93. The Karnatak state has initiated some important schemes under Social Forestry Programme. The Social Forestry Schemes envisage promoting farm forestry for raising and distribution of seedlings to farmers and afforestation in non-forest government lands, institutional lands, community lands and roadsides. It also provides soil and water conservation measures by taking up afforestation works. It contributes towards production of fuel wood, fodder, green manure, small timber and fibers etc.

(i) Forest and Environment Project for Eastern Plains is a scheme under Social Forestry Which relates to providing of funds for administration charges of the social forestry divisions working under Zilla Panchayats.
(ii) Afforestation for soil conservation scheme has been introduced. It envisages measures to prevent soil erosion in the degrades and eroded areas through afforestation activities and soil conservation activities. This scheme also contributes towards production of fuel wood, fodder green manure, small timbre and gave fibers etc.

(iii) The scheme of Decentralised Nurseries is oriented towards self-employment and income generation. In this scheme seedlings are raised involving farmers and voluntary organisations and they are marketed to general public.

(iv) School nurseries are raised by involving school children for including tree consciousness among them.

(v) Buildings for staff quarters and office accommodation for social forestry division.

(vi) A special component plan envisages raising of social security plantations for supply of bamboos, Astra ole and house construction materials for the welfare of scheduled caste people.

(vii) Tribal sub plan is introduced for the benefit of scheduled tribe people residing in and around forest areas.

(viii) The scheme of integrated Afforestation and Eco Development Project is centrally assisted. It aims at integrated development of wastelands soil conservation on degraded forests and maintaining the environment ecological balance.
The scheme of River Valley Project for soil conservation is implemented in Gadag, Haveri, Koppal, Bidar and Gulbarga district through afforestation.

The scheme of Minor Forest Produce and Social Forestry (Non OECE) are the other projects initiated in Karnataka.

Social Forestry Schemes in Karnataka also include Drought Prone Area Programme, Integrated Development of Western Ghats, Employment Assurance Scheme, Forestry and Environment Project for Eastern Plains of Karnatak etc. These schemes are related to the promotion of Social Forestry in Karnataka.

The forests of the district provide fuel wood to rural population. Honey and gum are the other forest produce available in the Gadag forests.

Forest Nurseries have been established in Gadag district in the 4 forest range areas of Gadag. Mudnargi, Shirahatti and Ron. There are nearly 70 Village Forest Committees in Gadag district.

The major sources of information about the social forestry to the respondent units were the (i) the neighboring villages where social forestry was introduced (ii) progressive formers in the respective villages (iii) agricultural extension workers of agricultural department (iv) printed materials like posters etc (v) government officials like Gram Sevaks (vi) television and radio and (vii) campaigns of social forestry department.

The plantations under social forestry have been taken up with definite reasons viz (i) for better utilization of followland (ii) for generating additional village income (iii) for meeting fodder requirements of village cattle (iv) in pursuance of advice of social
forest department (v) to meet the fuel and small timber requirement of village people.

98. The planning of plantations under the social forestry was done over a period of 3-4 years for the maximum member of respondent panchayat units. The period varied from 5 to 6 years for some while a few panchayats planned it for more than 6 years.

99. The panchayats engaged in social forestry in the study area did face some problems. Among them was the problem of shortage of funds faced by a majority of 36 respondents. Absence of guidance was another problem faced by 16 panchayats and shortage of labour was the problem faced by an equal number of panchayats. Shortage of saplings and unstable demand for the produce were the problems faced by 12 and 5 panchayats respectively.

100. The respondent panchayat units have experienced deviations in results of the social forestry schemes implemented by then. Measures taken by the panchayats include (i) improved labour input (ii) additional investment in the plantations (iii) improved care and protection of plantations etc.

101. The 85 panchayat institutions covered by the study have been making regular monitoring of the yield of plantations and comparison of the yield every year. The responses of majority of the units indicated favourable results about the yield.

102. The impact of social forestry plantations indicate beneficial effects on primary and secondary crops of the agriculturists in the area covered by the study. A very small number of respondents have indicated adverse impact of the social forestry on the crops.

103. The initial expenditure on plantations by the promoters varied from a minimum of Rs.10,000 to a maximum of 50,000 and more. However majority of the respondent panchayats did not make any initial expenditure as the said expenditure was borne by social forestry department.
104. The initial expenditure on the plantations under social forestry was financed by the funds of the Gram Panchayats in case of those who incurred the expenditure. In case of a very few units the initial expenditure was financed through government subsidy.

105. All the 85 panchayat units involved in the social forestry were scientifically preparing the budgets for the plantations managed by them. The budget period was for a duration of 1 year in case of majority of units. For the rest the budget period ranged between 2 years to 3 years.

106. The annual average expenditure on the plantations ranged from a minimum of Rs.10,000 to a maximum of Rs.30,001 to Rs.40,000.

107. The working capital requirements the 85 respondent units are met out of Gram Panchayat funds in case of majority of units. Government subsidy has been the source of funds for meeting working capital requirements of a small number of units covered by the study.

108. Moderate amount of annual income is realised from the plantations operated by panchayat institutions in the study area. The income is generated through sale of produce like fuel wood, simple timber, cattle fodder etc. The average annual income of 75 respondent units was upto Rs.10,000 while the annual average income of 6 units was higher at Rs. 10,000 to Rs. 20,000. The annual average income ranged at a higher level of Rs 2001 to Rs.30000 in case of 4 respondent panchayat units.

109. It is significant to note that 8 panchayat units had ancillary income generating activities of which 5 units were engaged in sheep and goat rearing and 3 units were engaged in dairy industry.

110. The size of plantation under social forestry in the study area varied between a minimum of 2.5 hectares or less in case of maximum of 28 units and 41-50 hectares in case of one single
panchayat unit. It is clear from the data collected from the respondent units that the size of plantations was small or moderate in case of majority of units.

111. The preparatory work relating to plantation under social forestry involves fertilising soil, digging irrigation trenches, putting protective fencing, leveling of land and bunding.

112. The plantations covered by the study have been started between 1997 and 2005. The data reveals that 36 plantations were started in 1997, 16 in 1998, and 8 in 1999. The rest of the 25 were started between 2000 and 2003 of which 7 were started in 2000, 8 in 2001, 6 in 2002, and 4 units were started in 2003.

113. The saplings of plants show different rates of survival. The data collated from the study indicate that in case of 47 plantation units the percentage of survival of saplings was more than 75 percent while in case of 38 units the survival rate of saplings was less than 75 percent.

114. Inadequate water supply has resulted in lesser percentage survival of saplings according to majority of respondent units. Other reasons for lower survival rate of saplings were inadequate care and protection, inadequate guidance, inadequate experience of workers, improper selection of saplings and natural calamity etc.

115. The gap between the planting and the yield of the trees (the gestation period) varied between 3 years to 10 years in case of plantations under social forestry. 28 units covered by the study have indicated that the maturity of plants was 5 years followed by 25 units maintaining that the maturity period was 3 years.

116. Social forestry has been managed by the 74 of the 85 Panchayat units in consultation with the department of social forestry. A very small number of 11 units have managed their plantations independently.
117. The areas of consultations with the department of social forestry related to prevention of diseases, care and protection of plants, marketing of produce and other aspects of plantations.

118. Use of fertilisers for plantations under social forestry has been widely accepted by majority of units. A small number of 15 units in a total of 85 have not been using fertilisers for their plantations.

119. The practice of experimenting with different varieties of saplings has been confirmed by a small number of only 16 respondent units while a majority of 69 units did not follow such a practice.

120. Majority of the respondent panchayat social forestry units have been selling their produce in the village itself. They are not selling the surplus produce outside the village.

121. Majority of forest plantations covered by the study have not been making any demand estimation for their forest produce. Similarly no reserve stock of plantations is carried by majority of plantation units.

122. Majority of forest plantations under social forestry covered by the study did not have any supply contract with the buyers.

123. Payment receipt from the buyers of forest produce has been prompt according to the majority of plantation units.

124. The number of whole time workers in individual plantations varied between a minimum of 1-2 and a maximum of 4-5. Similarly the number of part time workers varied between a minimum of 2 to a maximum of 5 and more in the respondent plantations under social forestry.

125. Training of panchayat members in social forestry has been confirmed by a small majority of 45 units while the other 40 units did not resort to any training for their members.

126. Majority of 50 units have confirmed that they got their plantation workers trained in social forestry.
Hypotheses and the Research Findings

The study was conducted with the assumption of two hypotheses. The first hypothesis is “Social forestry plantations have affected the agricultural crops and the farm income of the plantation farmers.”

The field survey conducted in the study area covering a total number of 125 plantation farmers has revealed that neither the agricultural crops of the respondents nor their farm income have been affected by their involvement in the social forestry plantations. Hence the hypothesis stands invalidated in the light of the research findings.

The second hypothesis assumed by the researcher is:

“The Gram Panchayats involved in the social forestry and the individual formers have not been properly assisted by the officials of the Government departments in promoting social forestry.”

The research findings are contrary to the hypothesis. The officials of the department of social forestry and the department of agriculture have been providing assistance, cooperation and guidance in different areas of social forestry. A large majority of respondent Panchayats and individual formers have asserted that they have received cooperation and guidance from the government departments in obtaining technical advice in selecting the saplings, choice of the lands for plantations, advice in protecting the plants and in obtaining saplings choice of the lands for plantations, advice in protecting the plants and in obtaining saplings from nurseries etc. The respondents have also asserted that they received financial assistance in the form of subsidy and by way of initial development of plantation through the expenditures incurred by the social forestry department. Hence this hypothesis is also not vindicated in the light of the responses obtained from the Panchayats and individual formers.
Suggestions

1. Choice of Species

In the choice of plant species factors like the site specificity, adaptability, local needs of the people and their socio-economic welfare should be taken into consideration. Fodder and fuel species should be given more importance for social forestry and agro forestry. For commercial forestry fast growing species like tropical pines should be put on extensive trial.

There is a marked tendency to cultivate plants such as teak, coconut and subabul for their cash value rather than eucalyptus and babul for their multiple uses. Technical guidance in respect of the optimum mix of both varieties be provided.

2. Need for Agro Forestry

There is a need for bringing about a monolithic integration of forestry, agriculture and animal husbandry. Agro forestry is useful to former to adopt a wide range of land management system leading to a combination of syliculture, with horticulture or animal husbandry or aquaculture. There is need for a well managed forest ecosystem in which plants, animals and humans co-exist in a mutually symbiotic manner as an essential component of ecological security.

3. Supply of Seedling

Non availability of suitable seedlings within a walkable distance is a major constraint in rural areas. It is therefore advisable to have a nursery managed either by farmers, schools, or Social Forestry department within five kms of each village.

4. Management of Social Forestry

The administration of social forestry should have a proper co-ordination of different government and non-government agencies. A co-ordinated approach involving the Panchayat Administration, District Rural Development Agencies, Drought Prone Area Program officials, Command Areas Development projects and credit institution is needed to make the program purposeful and effective to serve the interests of the rural households and the forest based industries etc. Presently the
Social Forestry Program in the state was being implemented under the overall control of the Forest Department.

5. Involvement of people

Common people should be associated from the very start of the planning of the social forestry program. This would help in resolving many of the so called problems. This will ensure their full participation in the implementation of the projects. To ensure people is involvement in the program the following measures would be helpful.

i. Incentive schemes for villagers for preventing theft of timber, fuel wood, minor forest produce from notified forests.

ii. Availability of timber, fuel wood, small timber and minor forest produce to villagers at subsidized rates.

iii. Establishing forest forums/clubs for regular patrolling, controlling of illicit, felling preventing and suppressing forest fires and spreading the message of forest conservation.

iv. Fair wages to forest workers so as to minimize their temptation for illicit felling and thefts.

v. Sustained financial benefits (assured wages, subsidized supply of forest produce etc to the population dependent on forests.)

vi. Leasing of lands to interested villagers for growing and maintaining forests

vii. Creation of village self help groups for aorestation and plantation management on common lands.

viii. Decentralized nurseries for creating forest awareness, reduction in transport costs of saplings, extension education in forestry and forest management, employment opportunities for the needy and beautification of the area and

ix. A clear role for panchayats and NGOS and the extension education for bringing about an attitudinal change among the people towards the forests.
6. Inducement of private sector

The private sector should be involved more closely and deeply in social forestry program. Instead of mere fiscal devices the private sector should be induced to invest in plantations on the scale required by leasing out large tracts of land along the barren coastal areas and other watershed in the country. The products from these land must obviously belong to the company which holds the lease.

p7. Education and Training

The personnel involved in the social forestry program should have adequate training in community dealing. The crucial aspect like training of social forestry personnel and the mode of institutional intervention in the implementation process are yet to receive adequate attention.

One of the basic requirements for this kind of organisation has been identified as training of forest technicians and professionals on broad understanding of rural development problems as well as knowledge of specific technical economic and public relations aspects. Adequate orientation should be given in the following areas.

- Socio-economic problems of poor rural areas.
- Effective ways of communication with rural population and gaining their confidence.
- Land use under arid and semi-arid conditions.
- Soil and water conservation.
- Agro silvicultural operations.
- Fuel wood production.
- Combined forestry and range management systematic social forestry therefore requires trained manpower with quite different skills than those of traditional forestry and the establishment of areas of specialisation with the forestry structure.
The officials and members of the village Panchayats too need short-term training about the general nature and content of social forestry. The field survey has indicated that the village Panchayats have in many cases not deputed their staff for training in social forestry nor have the members had any training in the program. Thus there is need for some sort of training for the members and workers of the village Panchayats in social forestry.

8. Financial Issue

The degraded wastelands do not provide proper returns. Hence the plantations on such lands under social forestry are not financially viable. Hence the programs cannot attract institutional, finances. Most of the components of social/community forestry can not be refinanced by NABARD. However farm forestry and private nurseries have emerged as bankable projects so far. Even then very few social forestry projects have been financed by banks. Non availability of institutional finances for the program has indicated that reaching the poor would require improved coordination between the credit and social forestry planning agencies.

9. Cost of Fencing and Protection

The study has revealed that many individual farmers managing plantations under social forestry have not gone in for proper fencing because of prohibitive cost involved in fencing. They faced the problem of protecting their plantations from cattle and from thieves etc. Hence there is need for providing financial assistance to these farmers by the village Panchayats, or Department of social Forestry so that the poor farmers can provide for proper fencing their plantations. Credit and development plans focussed on a village, as a whole would further aid intensive cultivation of income yielding trees. Social forestry program should receive priority funding under the Five Year Plans Village Self Help Groups should be encouraged for taking up social forestry plantations.
10. Marketing of Forest Produce

Presently Forest Development Corporation are responsible for marketing and pricing of forest produce. The existing price policies do not reflect the true resource cost of various forest products price being heavily tilted in favour of industries. Hence the anomalies of price fixing should be cleared through.

I (i) Rationalising the price structure of several wood products and timber species of industrial importance.

(ii) Extending support price to timber producers under social forestry program.

(iii) Encouraging forest based cottage industries by supplying raw material at subsidised rate.

II There is need for improving marketing infrastructure and monitoring of marketing activities to safeguard the interest of producers.

III Market survey for the produce of the social forestry is needed. This is particularly necessary in cases wherein species of industrial value like eucalyptus are involved. Demand forecast for such produce is linked up with the projections of demand for paper and rayon where eucalyptus is used as a raw material.

Continuous monitoring and evaluation of social forestry program would help in reorienting of the program in tune with the changing conditions of supply and demand for forestry produce.