

A.I.D. EVALUATION SUMMARY - PART I

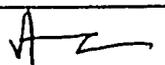
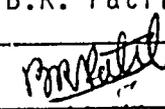
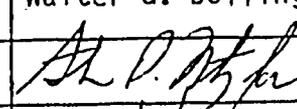
PC ACE 428  
ISN 78146

1. BEFORE FILLING OUT THIS FORM, READ THE ATTACHED INSTRUCTIONS.
2. USE LETTER QUALITY TYPE, NOT "DOT MATRIX" TYPE

| IDENTIFICATION DATA   |                             |   |                          |   |                                |
|---|-----------------------------|---|--------------------------|---|--------------------------------|
| A. Reporting A.I.D. Unit:<br>Mission or AID/W Office (ES# _____)  |                             | B. Was Evaluation Scheduled in Current FY Annual Evaluation Plan?<br>Yes <input checked="" type="checkbox"/> Slipped <input type="checkbox"/> Ad Hoc <input type="checkbox"/><br>Evaluation Plan Submission Date: FY 90 Q 3 |                          | C. Evaluator, Timing<br>Interim <input type="checkbox"/> Final <input checked="" type="checkbox"/><br>Ex Post <input type="checkbox"/> Other <input type="checkbox"/> |                                |
| D. Activity or Activities Evaluated (List the following information for project(s) or program(s) evaluated; if not applicable, list title and date of the evaluation report.) |                             |   |                          |   |                                |
| Project No.   | Project /Program Title      | First PROAG or Equivalent (FY)  | Most Recent PACD (Mo/Yr) | Planned LOP Cost (000)  | Amount Obligated to Date (000) |
| 386-0478  | Maharashtra Social Forestry | 1982  | 09/90                    | \$10,650  | \$20,650                       |

| ACTIONS  |  |                             |
|--|--|-----------------------------|
| E. Action Decisions Approved By Mission or AID/W Office Director<br>Action(s) Required   | Name of Officer Responsible for Action | Date Action to be Completed |
| <p>There was no MRC on this final evaluation as it was decided to incorporate some of the salient findings in the PACR and communicate principal recommendations to the concerned Government Departments for necessary actions in a memo as no action was required from the USAID.</p> |  |                             |
| (Attach extra sheet if necessary)  |  |                             |

| APPROVALS  |         |       |        |
|--|---------|-------|--------|
| F. Date Of Mission Or AID/W Office Review Of Evaluation: | (Month) | (Day) | (Year) |

| G. Approvals of Evaluation Summary And Action Decisions: |   |                                    |   |   |
|--|---|------------------------------------|---|---|
| Name (Typed)   | Project/Program Officer   | Representative of Borrower/Grantee | Evaluation Officer  | Mission or AID/W Office Director  |
|  | Amitabh Ray   |                                    | B.R. Patil  | Walter G. Bollinger   |
| Signature  |  |                                    |  |  |
| Date   | April 22, 1992  |                                    | 4/14/92   | 5/7/92  |

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A B S T R A C T

H. Evaluation Abstract (Do not exceed the space provided)

1. Project Purpose: Designed in 1982, this eight-year project had the goals of i) increased supply of fuelwood, fodder, fruit and smaller timber in rural areas; ii) reduction of the rate of deforestation; and iii) increased rural employment. The purpose of this project was to develop the ability of the state Social Forestry Department (SFD) to help farmers manage private lands and to promote community management of common land for increased and sustained production of forest products.

2. Evaluation Purpose: This final evaluation is focussed on the issue of sustainability raised by Regional Inspector General (RIG) Audit and even specific areas related to sustainability of project activities, privatization of seedling production, diffusion of plantations, distribution of benefits, transfer of management responsibility, effect of markets and prices on sustainability.

3. Evaluation Methodology: The team studied Social Forestry Department (SFD) records and monitoring and evaluation survey results. The team members made site visits to 64 villages in the three regions of Maharashtra to talk to elected village officials, farmers, and SFD staff at all levels.

4. Findings:

i) The project purpose of developing the capability of the SFD to help people manage private and community lands for increased and sustained SF production was achieved to a great extent.

ii) The SF staff has developed professional interest and commitment and more or less achieved the physical target of bringing 81,000 hectares under Social Forestry in 4300 villages.

iii) Community plantations are turned over to village councils after three years as stipulated. While woodlot management responsibilities are transferred to village councils, technically competent forest resource management groups have not developed to ensure sustainability and equitable benefit distribution as yet.

iv) The demand for seedlings is increasing, the private nurseries, particularly those begun later in the project, are surviving.

v) Seedling pricing is critical; if prices are permitted to respond to market level without being undercut by state-run nurseries, the able nursery owners should continue to do well.

vi) The private plantations in all areas and the community plantations in Western Maharashtra are functioning as hoped. However, 30-50 percent of the community plantations in other areas have been somewhat damaged since being turned over the local people

vii) Not only do village councils lack the expertise, but they also lack the commitment to manage and replicate community plantations.

C O S T S

I. Evaluation Costs

| 1. Evaluation Team   |                | Contract Number OR<br>TDY Person Days                                  | Contract Cost OR<br>TDY Cost (U.S. \$) | Source of Funds |
|--|----------------|--|--|-----------------|
| Name   | Affiliation    |  |  |                 |
| Mr. D.N. Misra   | Purchase Order | 386-0478-0-00-0238   | \$4,795                                | Project         |
| Ms. Zarina Bhatta  | Purchase Order | 386-0478-0-00-0239   | \$5,105                                | Project         |
| 2. Mission/Office Professional Staff<br>Person-Days (Estimate) _____ |                | 3. Borrower/Grantee Professional<br>Staff Person-Days (Estimate) _____ |  |                 |

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## A.I.D. EVALUATION SUMMARY - PART II

### SUMMARY

J. Summary of Evaluation Findings, Conclusions and Recommendations (Try not to exceed the three (3) pages provided)

Address the following items:

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>• Purpose of evaluation and methodology used</li> <li>• Purpose of activity(ies) evaluated</li> <li>• Findings and conclusions (relate to questions)</li> </ul> | <ul style="list-style-type: none"> <li>• Principal recommendations</li> <li>• Lessons learned</li> </ul> |
|--|--|

Mission or Office:

USAID/INDIA

Date This Summary Prepared:

March 1992

Title And Date Of Full Evaluation Report:

Final Evaluation of Maharashtra Social Forestry Project (September, 1990)

1. Project Purpose: Designed in 1982, this eight-year project had the goals of i) increased supply of fuelwood, fodder, fruit and smaller timber in rural areas; (ii) reduction of the rate of deforestation; and (iii) increased rural employment. The purpose of this project was to develop the ability of the state Social Forestry Department (SFD) to help farmers manage private lands and to promote community management of common land for increased and sustained production of forest products.

The major components of the project were creation of public and private sector seedling nurseries for plantation programs, establishment of plantations on private and community lands for increased production, development of farmer and community management skills to ensure sustainability of seedling and plantation programs, and technical and socio-economic research to help develop and expand social forestry programs.

2. Evaluation Purpose: This final evaluation is focused on the issue of sustainability raised by Regional Inspector General (RIG) Audit and the following seven specific areas related to sustainability of project activities:

- i) The effect of decentralized nurseries (both government and private) and seedling pricing policy on privatization of seedling production;
- ii) Status of community and private plantations and their multiplier effect;
- iii) Comparison of actual versus anticipated benefits from plantations and the distribution of benefits from community woodlots as suggested in guidelines;
- iv) Transfer of management responsibility from SFD to village communities and individual farmers;
- v) The contribution of extension, training and research activities of the SFD to the project's sustainability;
- vi) The effect of the external and market conditions on sustainability of the plantations; and
- vii) Evaluation of monitoring procedures as implemented by SFD.

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3. Evaluation Methodology: The two-member team consisting of forestry consultant and social scientist studied Social Forestry Department (SFD) records and monitoring and evaluation survey results, and made site visits to 64 villages in the three regions of Maharashtra to talk to elected village officials, farmers, and SFD staff at all levels.

4. Findings:

- i) The project purpose of developing the capability of the SFD to help people manage private and community lands for increased and sustained SF production was achieved to a great extent.
- ii) The SF staff has developed professional interest and commitment and more or less achieved the physical target of bringing 81,000 hectares under SF in 4300 villages.
- iii) Community plantations are turned over to village councils after three years as stipulated. While woodlot management responsibilities are transferred to village councils, technically competent forest resource management groups have not developed to ensure sustainability and equitable benefit distribution as yet.
- iv) The response to the two major questions raised by the Inspector General's Report regarding the sustainability of the nursery and plantation program after turning them over to local councils is mixed.
- v) The demand for seedlings is increasing, the private nurseries, particularly those begun later in the project, are surviving.
- vi) Seedling pricing is critical; if prices are permitted to respond to market level without being undercut by state-run nurseries, the able nursery owners should continue to do well.
- vii) The private plantations in all areas and the community plantations in Western Maharashtra are functioning as hoped. However, 30-50 percent of the community plantations in other areas have been somewhat damaged since being turned over to the local people.
- viii) Not only do village councils lack the expertise, but they also lack the commitment to manage and replicate community plantations.

Additional, specific findings responded to the seven areas of concern:

- i) As per project objectives, the number of SFD nurseries is declining, and responsibility for seedling production is gradually being decentralized to an increasing number of private nursery;
- ii) The privatized seedling production is increasing rapidly with a special demand for fruit trees sparked by a government subsidy;

- iii) About only ten percent of the targetted beneficiaries (rural poor) of the kisan (farmer's) nursery program are still functioning after the withdrawl of the government subsidy;
- iv) Virtually all plantations have been turned over to the villages but the communities lack trained personnel to manage them;
- v) Monitoring and evaluation activities for better management are inadequate; and
- vi) Replication of the local management of community plantations in Western Maharashtra has been somewhat successful, but elsewhere it is not so.

5. Recommendations:

- i) SFD should adjust its seedling prices to market levels to avoid undercutting private growers.
- ii) Subsidies to private nurseries should be withdrawn gradually over several years rather than discontinued abruptly as planned.
- iii) SFD should continue some extension activities with the communities even after the community is managing the plantation.
- iv) A village subcommittee should be formed and its members properly trained by the SFD to manage the community's plantation.
- v) More women should be involved in all phases of the social forestry effort including the SFD.
- vi) Staff for monitoring and evaluation should be strengthened and augmented with field investigators to track plantations yields and market trends. Software, hardware, and trained personnel are needed to implement effective monitoring efforts.

ATTACHMENTS

K. Attachments (List attachments submitted with this Evaluation Summary. Always attach copy of full evaluation report, even if one was submitted earlier. Attach studies, surveys, etc. from "on-going" evaluation, if relevant to the evaluation report.)

Copy of the report

COMMENTS

L. Comments By Mission, AID/W Office and Borrower/Grantee On Full Report

1. Report is more descriptive and less analytical.
2. Grip over the main evaluation issues is weak.
3. No convincing answers were provided to questions posed in the RIG's audit report.
4. Recommendations are more relevant for the Maharashtra Government and not so for the USAID.

ISN 78148  
XD-ABE-428-A

FINAL EVALUATION  
OF  
MAHARASHTRA SOCIAL FORESTRY PROJECT

By  
D.N. Misra & Zarina Bhatti

UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT  
September, 1990

## FOREWORD

In pursuance of the contract awarded to the consultants by the USAID for the final evaluation of the Maharashtra Social Forestry Project under contracts no.386-0478-0-00-0238 and 386-0478-00-0239 dated 24.8.90, the evaluation team undertook the study with effect from 27.8.90. After a briefing by USAID staff, at new Delhi, the team proceeded to Pune where it had discussions with SFD staff and collected various documents and records. The team had discussions with Kirlosker Consultants with regard to various research studies under preparation by them after which it left for field visits and returned to Pune for preparing the draft report and for discussions with SFD staff. The team also called on the Forest Secretary at the Mantralaya at Bombay before returning to Delhi.

The draft report was discussed in USAID in New Delhi and finalized after incorporating the comments and suggestions offered.

The evaluation team records its grateful thanks to all levels of SFD staff for their cooperation and help in collection of data and in arrangements for the field trips. Special thanks are due to Mr. S.P. Narvane, Director Social Forestry, Dr. S.S. Parasnis and Mr. P.G. Sathe.

D.N. MISRA  
ZARINA BHATTY

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## ABBREVIATIONS

|       |  |
|-------|--|
| APO   | Assistant Plantation Officer                 |
| DD    | Deputy Director, Social Forestry             |
| DPAP  | Drought Prone Area Program                   |
| EGS   | Employment Guarantee Scheme                  |
| FD    | Forest Department                            |
| GOI   | Government of India                          |
| GOM   | Government of Maharashtra                    |
| ha    | hectare                                      |
| IRDS  | Institute of Rural Development Studies       |
| JD    | Joint Director, Social Forestry              |
| JRY   | Jawahar Rozgar Yojana                        |
| M&E   | Monitoring and Evaluation                    |
| NGO   | Non- Governmental Organization               |
| NREP  | National Rural Employment Program            |
| PO    | Plantation Officer                           |
| RLEGP | Rural Landless Employment Generation Program |
| RIG   | Regional Inspector General, USAID            |
| RFWP  | Rural Firewood Planting Scheme               |
| SFD   | Social Forestry Directorate                  |

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## EXECUTIVE SUMMARY

### 1. Purpose of the A.I.D. Program Evaluated

Designed in 1982, this eight-year project had the goals of i) increased supply of fuelwood, fodder, fruit and small timber in rural areas; (ii) reduction of the rate of deforestation; and (iii) increased rural employment. The purpose of this project was to develop the ability of the state Social Forestry Department(SFD) to help farmers manage private lands and to promote community management of common land for increased and sustained production of forest products.

The major components of the project were creation of public and private sector seedling nurseries for plantation programs, establishment of plantations on private and community lands for increased production, development of farmer and community management skills to ensure sustainability of seedling and plantation programs, and technical and socio-economic research to help develop and expand social forestry programs.

### 2. Purpose of the Evaluation and Methodology Used

This final evaluation is focussed on the issue of sustainability raised by RIG Audit and the following seven specific areas related to sustainability of project activities:

- 1) The effect of decentralized nurseries(both government and private) and seedling pricing policy on privatization of seedling production;
- 2) Status of community and private plantations and their multiplier effect;
- 3) Comparison of actual versus anticipated benefits from plantations and the distribution of benefits from community woodlots as suggested in guidelines;
- 4) Transfer of management responsibility from SFD to village communities and individual farmers;
- 5) The contribution of extension, training and research activities of the SFD to the project's sustainability;
- 6) The effect of external and market conditions on sustainability of the plantations;
- 7) Evaluation of monitoring procedures as implemented by the SFD.

The two-member team divided responsibilities according to their respective expertise: one was a forestry consultant and the other, a social scientist. The team studied SFD records and monitoring and evaluation survey results and talked with the research study teams of Kirlosker Consultants. Together and individually, the team members made site visits to 64 villages in the three major agro-climatic regions of Maharashtra to talk to elected village officials, farmers, and SFD staff at all levels.

### 3. Findings and Conclusions

The project purpose of developing the capability of the SFD to help people manage private and community lands for increased and sustained SF production was achieved to a great extent. The SF staff has developed professional interest and commitment and completed or even surpassed the physical target of bringing 81,000 hectares under SF in 4300 villages. Community plantations are turned over to village councils after three years as stipulated. While woodlot management responsibilities are transferred to village councils, technically competent forest resource management groups have not developed to ensure sustainability and equitable benefit distribution as yet.

The response to the two major questions raised by the Inspector General's Report regarding the sustainability of the nursery and plantation program after turning them over to local councils is mixed. The demand for seedlings is increasing, and private nurseries, particularly those begun later in the project, are surviving. Seedling pricing is critical; if prices are permitted to respond to market level without being undercut by state-run nurseries, the able nursery owners should continue to do well. The private plantations in all areas and the community plantations in Western Maharashtra are functioning as hoped. However, 30-50 percent of the community plantations in other areas have been damaged since being turned over to local control. Not only do village councils lack the expertise, but they also lack the commitment to manage and replicate community plantations.

Additional, specific findings responded to the seven areas of concern:

- As per project objectives, the number of SFD nurseries is declining, and responsibility for seedling production is gradually being decentralized to an increasing number of private nursery;

- The privatized seedling production is increasing rapidly with a special demand for fruit trees sparked by a government subsidy;
- About only ten percent of the targetted beneficiaries (rural poor) of the kisan nursery program are still functioning after the withdrawal of the government subsidy;
- Virtually all plantations have been turned over to the villages but the communities lack trained personnel to manage them;
- Monitoring and evaluation activities for better management are inadequate;
- Replication of the community plantations in Western Maharashtra has been somewhat successful, but elsewhere it has occurred only sporadically.

#### 4. Principal Recommendations

- SFD should adjust its seedling prices to market levels to avoid undercutting private growers.
- Subsidies to private nurseries should be withdrawn gradually over several years rather than discontinued abruptly as planned.
- SFD should continue some extension activities with the communities even after the community is managing the plantation;
- A village subcommittee should be formed and its members properly trained by the SFD to manage the community's plantation.
- More women should be involved in all phases of the social forestry effort including the SFD.
- Staff for monitoring and evaluation should be strengthened and augmented with field investigators to track plantation yields and market trends. Software, hardware, and trained personnel are needed to implement effective monitoring efforts.

## Chapter 1

### INTRODUCTION

#### 1.1 General

1.1.1 The USAID - assisted Social Forestry Project was launched in Maharashtra State in 1982 with the objectives of (i) increased supply of fuelwood, fodder, fruit and small timber in rural areas, (ii) reduced rate of deforestation, and (iii) increased rural employment. The major components of the project were (a) creation of public and private sector tree seedling nurseries for plantation programs (b) establishment of plantations on private and community lands for increased production, (c) development of management skill in the farmers and communities to sustain village afforestation programs, and (d) technical and socio-economic research to help develop and expand the social forestry programs.

1.1.2 A mid-term evaluation of the project was carried out in 1985 and a subsequent audit by the USAID Regional Inspector General (RIG) in 1988. While the mid-term evaluation had noted to a general lack of emphasis on some basic project activities necessary for sustainability such as training, research and extension, the RIG audit had recommended that the final evaluation team study the question of sustainability of the nursery and plantation program.

## 1.2 Terms of Reference

1.2.1 The primary purpose of this evaluation is to look into the question of sustainability of nursery seedling production and private/community plantations development. The issues to be looked into are (a) the trend of seedling production/distribution through government/private nurseries, (b) the issues of nursery decentralization and seedling pricing policy; (c) the status of private/community plantations with specific focus on benefit distribution/derivation; (d) the comparison of actual cost and benefit distribution/derivation; and (e) the effects of SFD training, research, extension and monitoring activities in promoting sustainability.

## 1.3 Evaluation Issues

1.3.1 The final evaluation is to address the following specific questions related to the sustainability of the activities initiated under the project.

1) What have been the trends of decentralized nursery establishment (both govt. and private) and seedling pricing policy to support expanded privatized seedling production?

2) What is the status of private and community plantations established under the project and what has been their multiplier effect?

3) How does the actual production of forest products from the community and private plantations compare with the planned benefits (cash and kind)? How are the product benefit from community wood lots distributed in the village and to what extent is this practice consistent with the recommended guideline?

4) To what extent have the management responsibilities been successfully transferred from SFD to the village communities?

5) How have external and market conditions affected the potential sustainability of the plantations?

6) How have the extension, training and research activities of the SFD either facilitated or constrained the sustainability of private/public nursery and plantation development programs?

7) What systems/procedures have the SFD established to monitor the sustainability of the plantations and nurseries raised under the project and what is their effectiveness?

#### 1.4 Team Composition and Division of Work

1.4.1 The evaluation team had two members: Mr D.N. Misra, forestry consultant and team leader; and Mrs. Zarina Bhatti, social scientist.

1.4.2 The forestry consultant looked into the questions of private/community plantation status along with multiplier effects, actual production of forest products from community/private plantations as compared to the planned benefits, effect of external and market conditions on sustainability and the system/procedures to monitor nursery/plantation development.

1.4.3 The social scientist examined the trend of decentralized nursery establishment, seedling pricing policy, the actual product benefit distribution from community woodlots compared with the recommended guidelines, extent of successful transfer of management responsibilities to village communities, and the impact of extension activities on sustainability.

1.4.4 While the above division of work was broadly kept in view, there was intensive exchange of views and discussions on all aspects at all stages of formulation of views and report writing.

## 1.5 Methodology

1.5.1 In order to provide answers to the questions posed in section 1.3, the evaluation team used the SFD records and M&E unit survey results available with the SFD. A number of research studies were commissioned by the USAID and SFD on various aspects of the project. (See list in appendix XVII). Some of these studies have been completed and were available to the evaluation team. Some others were still in the process of completion. The evaluation team, however, talked with the research team members engaged in the studies and were able to get some idea of the expected findings of the research studies.

1.5.2 The Scope of Work (SOW) had suggested study of three districts in the state and at least fifteen villages in each of the selected districts. The four distinct agro-climatic regions in Maharashtra are the Konkan, the Western Maharashtra, the Marathwada and Vidarbha. Since Konkan region is small and parts of Western Maharashtra are similar to it, the three regions selected were Western Maharashtra, Marathwada and Vidarbha. The three districts selected in the regions were Kolhapur in Western Maharashtra, Aurangabad in Marathwada and Akola in Vidarbha. The selection of the districts was based on the logistics of travel and time constraint.

1.5.3 The villages for study in each district were randomly selected from among those that began community plantation or other planting models during the project period. During field visits other project and non-project villages were also visited, some on the suggestion of local staff and some others that fell on the route of the team's travel. An effort was also made to distribute the villages in such a way as to cover the widest spectrum within the district. A list of villages studied by the team is contained in Appendix I. All the selected villages in Kolhapur district were jointly visited; in Aurangabad and Akola, the team members split into two separate parties to cover as many villages as possible within the available time. The team visited villages which had done exceptionally well and those where community block plantations were damaged due to the neglect of the Panchayat (elected village council). The team is satisfied that the total picture that emerged from the visits was fairly representative of the conditions in the districts.

#### Field visits, Interviews, Research Studies

1.5.4 The team realizes that for a state like Maharashtra with differences in soil and patterns of rainfall even within each agro-climatic regions, it could only visit a representative sample of the different micro-climatic divisions. The team interviewed a large number of farmers, elected village leaders, and representatives of a number of institutions including sugar cooperatives, tree growers cooperatives, Vriksha Mitra Mandals and other promotional NGOS, and schools. In addition to formal interviews with Sarpanches (elected village leaders) and others, the team also interviewed ordinary farmers, both educated and uneducated, and landless laborers. The latter interviews were done to avoid a somewhat one-sided picture in the formal discussions with village sarpanches.

A large number of farmers inevitably came to the village hall and sometimes filled in gaps or made explanations where the Sarpanch was unable to provide a satisfactory answer. Interaction with the women members of different social groups was very limited. The woman member of the team specifically sought out women members of Panchayat for interviews but only a few were available. Appendix II is a partial list of the individuals and institutions interviewed. It is not possible to include all the names because of the constraints of space.

1.5.5 The team spoke with the research study teams of Kirlosker Consultants who completed a number of research studies. Not all are ready but the preliminary and even manuscript drafts of some were made available to the team. (See Appendix XVII)

1.5.6 The team met with SFD staff at all levels. Names of senior staff members are listed in Appendix XIX. The team is grateful for the help extended by Mr. P.G. Sathé, a USAID consultant and a retired Chief Conservator of Forests of Maharashtra Cadre.

#### Distinctive features of the Regions

1.5.7 The three regions visited, Western Maharashtra, Marathwada and Vidarbha, have very different physical and social characteristics which have significantly affected project results.

### A. Western Maharashtra

1.5.8 Western Maharashtra is characterized by a very strong cooperative movement spearheaded by the sugar cooperatives, dairy development, and forest laborers' cooperative societies. Bounded on the west by the ghats which occasionally rise to about 1,000 meters, this area is undulating with bare mountain slopes crisscrossing the region. The broad valleys and the lower slopes are cultivated, and the cultivation of fruit trees on the bare slopes owned by big farmers is increasing under the GOM scheme of 100 percent subsidy for fruit tree planting. Sugarcane is cultivated on a large scale and there are several cooperative sugar factories. Average rainfall in this region is around 700 m.m. Parts of Dhule, Satara and Ahmadnagar are drought prone. The soils are medium to deep black. Dairying is an important activity in the region.

1.5.9 It has a large number of advanced technical colleges, including some at the local level. The general prosperity of the region and the educational and technical facilities have made the people politically, socially and environmentally conscious. People are ready to adopt new ideas if it can be demonstrated that they are profitable propositions. An easy acceptance of new ideas and practices has given this region a dynamism that other parts of the state lack.

### B. Marathwada

1.5.10 The Marathwada region lies between the Western Maharashtra and Vidarbha region. The physiography of the region is undulating with low hills that have outcrops of rocks; large stretches have underlying sheet rock with very shallow soils. The average rainfall is around 800 m.m. The districts of Beed, Aurangabad, Jalna, Osmanabad and Latur have drought-prone villages with nearly half of Osmanabad and Latur being affected by drought. Sugarcane is grown in areas where lift irrigation is available. The soils are mostly red-murram to black loam. Millet and some cotton are grown on a large scale. Dairying activities are not as intensive as in Western Maharashtra. Fruit orchards are becoming common with the liberal subsidy now available from GOM.

1.5.11 In the Marathwada region the sight of large herds of cattle, sheep and goats about in the bare fields is very common. Stall feeding appears to be usual in Western Maharashtra but rare in Marathwada. The region is generally poorer in comparison to its neighbor to the west. Perhaps because of the large herds of cattle, the soil on the hill slopes and tops is badly eroded.

### C. Vidarbha

1.5.12 Vidarbha, the eastern-most part of Maharashtra with average rainfall of 1,200 m.m, is comparatively flat with a few drought-prone districts like Wardha, and parts of Akola, Buldhana, Chandrapur. The soils are mostly medium black cotton in the western part with sandy and light loam in the eastern-most parts. Vast blank stretches occur where the soil is very shallow and no irrigation is available. The districts of Yeotmal, Gadchiroli, Amravati, Nagpur, Bhandara and Chandrapur are still forested.

1.5.13 Large herds of cattle and sheep and goats are a threat not only to the existing forests but to the plantations raised by SFD. Even when they are protected by deep trenches, the plantations are damaged in the absence of watchmen and sometimes even with watchmen. Dairying is not as common as in Western Maharashtra. Although orchards of citrus fruits are becoming common, cotton is the main crop of the farmers.

## Chapter 2

### NURSERIES

#### 2.1 General

2.1.1 The success of a plantation program is dependent on the timely supply of sturdy, healthy and well-grown seedlings, and this in turn means a well organized and efficiently run nursery. Nurseries are generally classified as temporary, those operating near a plantation site for two to three years, and permanent, large centralized ones with a dependable source of water supply. The social forestry program has used both.

2.1.2 The nurseries are also now classified according to the ownership. In the social forestry program, four distinct categories of nurseries have developed: the SFD nursery, the Kisan (private) nursery, the school nursery, and the other NGO nurseries like those run by the cooperative sugar factories and tree growers cooperatives. The two most important sources of seedlings in the social forestry program have been SFD and SFD sponsored Kisan (private, decentralized) nurseries. The growth and sustainability of the plantation program is based on healthy nursery programs that provide an easy, dependable and locally available flow of seedlings.

## 2.2 SFD Nurseries

2.2.1 The project document projected two SFD nurseries per district to be used primarily for the plantation program on community and government lands. This was to be supplemented through Kisan nurseries at the rate of one per village. Survey of SFD nurseries in the three selected districts of Kolhapur, Aurangabad, and Akola is contained in Appendix VII but it does not give the number of nurseries operating before 1986-87. It does show a far greater number of nurseries run by SFD than anticipated but this may be because few private nurseries developed (see Appendix VIII). The major demand for seedlings had to be met from the decentralized SFD nurseries, which initially increased but declined after 1987-88 when the Kisan nursery program grew.

2.2.2 Until 1986-87, the SFD nurseries distributed free seedlings for private planting, since then a subsidized price of 20 paise has been charged. The sudden decision in 1987-88 to charge for seedlings had an adverse impact on private plantations (see Chapter 3 on Private Plantations).

## 2.3 Village and Kisan Nurseries

2.3.1 The project paper envisaged two SFD nurseries per district to meet the needs of community block planting and private farmer planting. These nurseries were to be supplemented by at least one private village nursery per village sponsored by the SFD. The SFD was to support landless laborers and farmers below the poverty line by giving them materials like polythene bags, seeds and insecticides free of cost. The cost of this material was estimated in 1982 at Rs.0.15. The labor and other costs were then estimated at Rs. 0.10. The total cost of a polythene bag seedling thus came to Rs. 0.25. The SFD was to purchase the seedlings from the nursery owners at the cost of production less the cost of material already supplied or Rs.0.10 (Rs.0.25 less Rs.0.15). A nursery owner was expected to raise 5,000 seedlings and his net earning for his efforts was expected to be Rs. 500/- from the sale of 5,000 seedlings. Those earnings were to take him above the poverty line.

2.3.2 It would be noted that while selected farmers were getting the seedling with subsidy of Rs. 0.25 per seedling, the independent nursery owner received none. Perhaps because of this disparity, few private village nurseries developed until 1986-87 when Kisan Nurseries were set up under a GOI scheme.

2.3.3 A special feature of the social forestry project has been the sponsoring of Kisan nurseries to provide farmers with easily accessible seedlings under the GOI Scheme. An additional purpose of the Kisan nurseries is to provide employment to the weaker sections of rural people. According to this scheme, individuals, preferably the poor, landless and women are provided with seed, polythene bags and pesticides free of cost (estimated to cost about 15 paise) and a cash incentive of 10 paise per seedling raised. The number of seedlings allotted per nursery beneficiary is between 10 to 25 thousand per year. The beneficiary receives subsidized seedlings for three years. The scheme makes seedlings available to the farmer at his doorstep and additionally provides income generating opportunity. The scheme of Kisan nurseries was launched in 1986-87, and the guidelines for choosing beneficiaries and pricing are contained in GOM Resolution No. 1886/CR-1175/ Desk-32 dated 9.10.1986 (see Appendix XII). The major points in the above Resolution are as follows:-

- 1) Beneficiaries should be small and marginal farmers below the poverty line.
- (2) Priority should be given to young persons and women.
- (3) Among 10 beneficiaries to be selected from each Taluka (subdistrict), 5 should be from Scheduled Caste/Scheduled Tribe and two should be women.
- (4) The sale price of seedlings kept in polythene bags should not exceed 45 paise.

- (5) The beneficiary should sell the seedlings directly to farmers. Unsold seedlings could be purchased by the Forest Department at 20 paise per seedling.
- (6) There will be no free distribution of seedlings from Kisan nurseries under any government scheme.

2.3.4 As per guidelines issued, the beneficiary gets the material like polythene bags, seeds and insecticides free of cost. In addition he gets a cash subsidy of 10 paise. If the beneficiary sells the seedling to farmers at 45 paise each, he gets a total cash of 55 paise per seedling. If he raises 10,000 seedlings and sells them to farmers at 45 paise each, he gets a net return of Rs. 5,500 during a period of 6 to 7 months. Without subsidy the returns decline to less than 50 percent.

2.3.5 The annual distribution of Kisan nurseries and the seedlings raised in the three selected districts (see Appendix VIII) shows an increase from 1986-87 to 1989-90 for all the three districts, i.e., from 10 to 24 lakhs in Kolhapur, 8 to 19 lakhs in Aurangabad and 18 to 23 lakhs in Akola districts. The rising demand for seedlings confirms the increasing tempo of plantations. This increase is confirmed by the annual production of seedlings from 1986-87 to 1990-91 for all the three districts (see Appendix IX). For Kolhapur, the number of seedlings produced increased from 16.56 lakhs in 1986-87 to 102.82 lakhs in 1990-91. Similarly, for Aurangabad and Akola, the corresponding figures are 7.32 lakhs to 18.38 lakhs, and 8.32 lakhs to 18.68 lakhs respectively. The increase in seedling production between 1986-87 and 1990-91 was six times in Kolhapur, and around 2.5 times in Aurangabad and Akola. These figures confirm the sustainability of the nursery and plantation programs.

2.3.6 Since 1986 when these price calculations were made, there has been a tremendous increase in labor and other costs. The team estimates that the overall cost of raising seedlings is around 65 paise. The labor component is around 40 paise and other costs are around 25 paise. If the farmers sells the seedlings for 45 paise, he loses money. After the period of subsidy (3 years) is over, the grower's over all actual cost is 65 paise; therefore the nursery owners would have to sell at 80 to 85 paise to earn a satisfactory return. For species other than nilgiri which have to remain in the nursery longer, the sale prices have to be even higher. As will be discussed in a subsequent subsection, the sale price of seedlings from SFD nurseries should be raised to avoid undue competition with private nurseries.

2.3.7 During its discussions with beneficiaries and staff the team was repeatedly told that the subsidy should not be withdrawn as it makes the nursery operations unremunerative. However, the SFD staff pointed out that in practice there is no ceiling on the price of seedlings. In fact, farmers are paying a higher price for plants of such species as teak.

2.3.8 With the withdrawal of all subsidies and removal of restrictions on the sale price of seedlings after three years, an efficient beneficiary should still be able to make the nursery business profitable. However, the returns to the owner drops significantly and acts as a dis-incentive for nursery owners to remain in business.

Research yet to be finalized by Kirlosker Consultants found that, after the withdrawal of subsidy, only 10 percent of beneficiaries have continued. The team, therefore, recommends that the subsidy be gradually withdrawn over a period of a further three years.

## 2.4 Constraints in Commercializing Nursery Business

2.4.1 The several constraints in private (Kisan) nursery operations are discussed below:-

- (1) The project guidelines stated that Kisan nursery beneficiaries should be selected from persons below the poverty line. Consequently, persons who qualify as beneficiaries often do not own land or, even if they have land, it is not irrigated. Thus getting a beneficiary who qualifies under the criteria is time-consuming and difficult.
- (2) The SFD nurseries continue to sell seedlings at 20 paise each. The Kisan nurseries cannot compete in areas where SFD nurseries are still operating. SFD staff were aware of this difficulty and asked GOM to stop subsidized prices. The team met with the Secretary of Forests who agreed to remove the subsidy for the next season.
- (3) Some beneficiaries had complained to the team that they had problems in finding seed supplies of desired species. For example, there was, a declining demand for nilgiri timber and increasing demand for fruit species, but the SFD was unable to provide seeds of the desired species.

2.4.2 It is necessary to look into the constraints and problems faced in commercializing the nursery business to sustain the plantation program and social forestry momentum.

## 2.5 Problems of Seed Procurement and Supply

2.5.1 Quality seed procurement and timely supply still poses problems. Some of the species like nilgiri exhibit tremendous variations in the quality of seedlings raised from seed. This is apparent in the block and strip plantations raised by farmers and by SFD. Quality control could begin by selecting and marking (+) on trees in different zones that are designated for seed collection. The SFD has to initiate this program because trees have already reached seed production age. By selecting proper trees for each region, the wide variability in growth could be minimized. If this is followed by a screening of seedlings in the nursery stage that rejects weak and unhealthy specimens, the eucalyptus crop, for example, could be more uniform and higher yielding. The SFD staff complained that late release of funds for the nursery program affected the morale of the Kisan nursery beneficiary who was not sure whether he would get the required subsidy in the next season. The SFD director should impress upon the GOM that late release of funds results in poor quality seedling production and amounts to wastage of funds.

2.5.2 In spite of the above handicaps, some Kisan nurseries are flourishing. The team interviewed a woman beneficiary who had made Rs. 12,000 from the sale of seedlings. She invested some of this money in buying seeds for more expensive species and also bought a plot of land to build a house. In an other case, school and college youth started a nursery without any support from SFD. They collected the seeds of nilgiri locally and raised seedlings on their own farmland and made a handsome profit from sales. Nursery raising can certainly be a sustainable activity if minor irritants are removed. The team is confident that there will be a continuing demand for tree seedlings in the foreseeable future, though choice of species is changing (see Appendix VII and VIII).

## 2.6 Institutional Nurseries

### 2.6.1 Sugar Cooperatives:

In Western Maharashtra, sugar cooperative factories are raising seedlings of various species including fruit. They sell seedlings at a subsidized price to their members and, if available, even to outsiders. An annual statement showing the number of seedlings of various species raised by Vasant Dada Cooperative Sugar Factory at Sangli is given in Appendix XI. The number of species actually being raised was twice the number shown in the table and included ornamental plants like croton and hybrid tea roses. Other sugar factories in Western Maharashtra are reportedly following similar program. Nilgiri continues to be in substantial demand in this region.

### 2.6.2 School Nurseries

School nurseries should not be regarded as commercial ventures because students cannot devote adequate time and cannot look after them during the school vacations. The primary aim of school nurseries is to interest the school children who are at an impressionable age. Since the seedlings from the nurseries were already sold out, the team could not see any operating school nursery. Wherever the students had proper leadership, they produced very good results and earned money for their institutions. One such school was New English Khanderao Secondary School - Khanderajury (Taluka Miraj) which had raised 25,000 seedlings of nilgiri out of which 22,000 survived. It sold 13,000 seedlings at 30 paise per plant and got about Rs.4000/-. The remaining seedlings were distributed free to the school children for planting in their farm lands. The school had also planted nilgiri on its boundaries, and the trees were flourishing.

### 2.6.3 Tree Growers Cooperatives and Other Promotional Societies

At least one tree growers cooperative has been successful. The team met the Chairman of the District Farmer Cooperative Tree Planting and Protection Society of Kolhapur - Mr. Shivaji Rao Patil. The society was registered on 1-11-1987. He comes from Vasi village where lift irrigation was provided on a cooperative basis. He had raised 5 lakh seedlings of nilgiri in his nursery in 1984 and had distributed them free to the farmers. He had thought of starting the cooperative because there was no support from the GOM for private tree planting, except a supply of seedlings free or at subsidized price. The society has 400 members all over the Kolhapur district and each member has planted trees on his farm. The society has requested the GOM to allot land with irrigation facilities for starting new nurseries. Nearly 200 ha. of plantation have been created by the society, which already has three nurseries in three different tehsils of the district.

2.6.4 Twelve voluntary organizations are producing seedlings and promoting plantations in the Aurangabad district, while Akola has 11 and Kolhapur, 27. The team was informed that a member of the cooperative sugar society of Retre (Shivasagar) in Satara district has forwarded a proposal for establishing a pulp manufacturing plant using nilgiri.

### 2.7 Suggestions for Improving Kisan Nursery Program

The following recommendations are made to improve the Kisan Nursery Program.

- i) The seedlings in SFD and Kisan nurseries should be similarly priced.
- ii) The SFD should provide better extension services including proper advice on changing trends in choice of species, quality of seeds, and market demands.
- iii) The subsidy should be withdrawn gradually over a period of three to four years.

## Chapter 3

### COMMUNITY PLANTATIONS

#### 3.1 General

3.1.1 Plantations on community lands are a major component of the project and have been begun by the SFD as per targets contained in the project document. The number of villages with community block plantations virtually doubled and the number of hectares increased three and a half fold.

3.1.2 During 1988-89, the balance target of 62 ha in 11 villages was completed, along with non-project block plantations of 18,000 ha. The non-project plantations during 1989-90 rose to 22,000 ha. This was possible as funds for plantations were made available under a number of government schemes for income and employment generation. The same level of community block plantations is expected to be maintained in the future. (The extent of plantations begun annually in the state are in Appendix XIV. Appendices III and IV give the number of villages that began block planting under the SFD and other programs respectively in the three selected districts of Kolhapur, Aurangabad and Akola. The table in Appendix XIV shows that community block plantations rose from a total of 2,484.31 ha in 540 villages in 1983-84 to a total of 8,632.62 ha over 1049 villages in 1987-88, the last year of the Five Year Plantation Program.)

3.1.3 The choice of species selected for the block plantations was appropriate except for the use of nilgiri in some arid and inhospitable localities, mostly in the Marathawada and Vidarbha regions. Apart from common species like subabul, kashid siwan, sias, gmelina, sisoo, neem, baboul, glyricidia and prosopis, there is a fair mixture of fruit species and bamboo. The plantations are highly successful.

### 3.2 Village Management Plan

3.2.1 For each village where a community plantation is proposed, an elaborate management plan is drawn up. It contains detailed demographic data, land-holding pattern, number of landless people, area statistics, the requirements of firewood, fodder and small timber in the village and the likely yields of various kinds of produce from the block plantation from year 0 to year 30. It makes clear that the plantations would not meet the entire needs of the village, and the primary aim of the block plantation was not to cater to the entire needs of the village but to serve as a demonstration model for the village, create awareness and tree-consciousness and inspire the village to extend the plantations through voluntary effort.

3.2.2 The management plans do not establish a mechanism of managing the block plantations after their stipulated handover to the village Panchayat three years from the date of planting. The project had assumed that during the three years the plantation was under the charge of the project staff, the necessary technical expertise would be transferred to the Panchayat to manage and supervise all operations in the blocks. This transfer has, however, not happened. This matter is further dealt with in the subsequent sections.

3.2.3 In the absence of an agency that could take over the responsibility of managing the block plantations, and in the absence of any guidelines and/or procedures laid down for such action, the management plans have lost their utility. To be relevant such plans should have examined the wood-balance study, noted the total requirements of various kinds of produce needed by the village and recommended a minimum area to be planted to meet those needs. It should have also laid down the annual planting plans to achieve the total planting target in the village. This target might have spurred the village Panchayat to continue plantings to achieve the target.

### 3.3 Transfer of Block Plantations to Panchayat

3.3.1 The project stipulated that, after three years of planting, the plantations would be transferred to the Panchayats for continuing maintenance and management. With some exceptions, such transfers to Panchayats have already taken place.

#### 3.3.2 Status of Block Plantations transferred to Panchayats.

3.3.2.1 As pointed out in the above section, the transfers of the block plantations to Panchayats started in 1986-87, three years after the first plantations under the project were started. The last plantations under the project were begun in 1987-88, and these too were transferred to the Panchayats in 1990. The team visited a large number of such blocks in all the three districts selected for field study to see how they were being maintained and what mechanism or organization had been evolved by the Panchayats for their management and control. The team found marked differences in the involvement of the Panchayats in the management and protection of such blocks in each of the three regions.

A. Western Maharashtra

3.3.2.2 Almost all the block plantations visited in the Western Maharashtra had been scrupulously maintained by the Panchayats. As noted in the introductory chapter, Western Maharashtra is a prosperous and developed region with very high awareness and tree consciousness among the villagers. Cattle are mostly stall-fed, and villagers agreed not to allow their cattle to stray in the planted blocks and damage them. Thus, no elaborate protection measures were necessary. Generally the blocks are protected by a trench-cum-mound. During the period the blocks were under SFD control, watchmen had also been employed to look after them. While a majority of the Panchayats continued with the watchmen, a few did away with them and still kept their plantations intact. Some others kept the watchmen even though the returns from the plantations (mostly sale of grass) did not meet their wages, and the panchayats managed to scrape up the necessary amount in various ways. Examples of such villages are Minche, Khanderajury, and Sirsinghe in Kolhapur.

B. Marathawada and Vidarbha

3.3.2.3 As one moves eastward from Western Maharashtra through Marathawada and Vidarbha regions, block plantations under the Panchayat control progressively deteriorate. Part of the reason for the damage to the plantations is the larger herds of cattle maintained in these regions and their free-ranging feeding pattern. Part of it has to do with a lesser degree of care and involvement of people in general and the Panchayats in particular with the block plantations. Whereas in Western Maharashtra, hardly any block plantation has suffered, in the Marathawada region as much as 30 percent of the block plantations have been badly damaged already. In the Vidarbha region the situation is even worse with nearly 50 percent of such blocks damaged.

3.3.2.4 In spite of trench-cum mound fence around the block plantations, the herds of cattle, sheep and goat have made in-roads into the planted areas and destroyed vegetation. In addition the villagers themselves have surreptitiously led their cattle inside the plantations despite the watchmen. Where the Sarpanch appeared to be indifferent to the fate of the block plantation, he used the familiar excuse no funds for watchmen. In one village which the team visited, the Panchayat had sold grass and earned an income of nearly Rs. 3000/- which it used for the welfare activities in the village and did not bother to protect the block by engaging a watchman. When questioned, the village leader explained that a watchman could not have been engaged within the funds generated through the sale of grass. The block was vandalized by laborers working on the construction factory nearby.

3.3.2.5. There are, however, several constraints which are faced by the Panchayats. Most of them in the Marathawada and Vidarbha regions lack financial resources, Rs. 3,000/- to Rs. 5,000/-, to adequately pay watchmen. The income in most block plantations has been limited to the sale of grass, and this, in a majority of cases, is not adequate to cover the wages. Another constraint is that none of the Panchayat members have been trained to handle the management of the block plantations (see succeeding subsections). In some instances the Panchayats have refused to take over the responsibility of management of the block plantations (see succeeding subsections) at all or until they start yielding sufficient returns to cover the protection costs.

### 3.4 Problems of Plantations Management

3.4.1 The oldest plantations have been functioning for six to seven years. Some of these and even newer ones in favorable localities are overgrown and need thinning badly. One or two Panchayats interviewed by the team expressed their emphatic opposition to any intervention like thinning or sale of grass as they wanted the block to grow unhindered by human intervention into a fine forest to improve the environment and bestow its other benefits on the village community. These are the rare cases of full emotional involvement of not only the village leadership but the whole village community with trees and plants.

3.4.2. Another important dimension of the block plantations is silvicultural management of the crop. The transfer of the blocks to Panchayats was not preceded by any training of members of the Panchayat in cultivation operations like cleanings, thinnings, coppicing, and singling of the standing crop. At the time of planting, perhaps the SFD interacted with the villagers and/or the Panchayat members in decisions about sites, choice of species, extent of area and the like. In various operations connected with the plantations, like soil working and planting, the villagers provided labor through which they are expected to have learned the technique of planting. But no effort has yet been made to train a couple of young men in each village in the basics of silviculture and felling operations. In at least one block plantation the subabul have been attacked by gummosis (root fungus) and needs to be immediately removed to save the rest of the crop (village Khanderajury, tehsil Miraj in Sangli district). The team's interviews with Panchayat members elicited varying reactions. All Panchayats stressed the need to protect and maintain the block plantations but few had any ideas as to the needs of the growing crops. Only in Western Maharashtra and in a isolated exceptions in the other two regions are the Panchayats, by and large, deeply committed to the plantations.

In Western Maharashtra, some voluntary agencies like tree growers' cooperatives, youth clubs and Vriksha Mitra Associations are developing with committed memberships, keen to learn all that is necessary to maintain the crops and manage them, but no such movement was observed in the other two regions. The overwhelming impression the team got in these regions was something akin to unconcern and apathy.

3.4.3 The problem may be partially rooted in the character and function of the Panchayat, which is a political body whose time and attention is claimed by a host of activities. They have assumed control because the management plan decreed so and the SFD insisted on the transfer of control. Unfortunately no links between SFD staff and the management of the block plantations continued after the transfer of control to Panchayats. Wide-ranging interviews with ordinary farmers, teachers and others appeared to confirm the team's fears that unless some mechanism is evolved to ensure a continuing interest and interaction of the farmers and the Panchayat, the block plantations will be taken for granted and condemned to slow decay through neglect, ignorance and apathy. The team strongly feels that the Panchayat should have a small subcommittee (forest subcommittee) to advise it on various matters connected with the management and upkeep of the block plantations. The subcommittee should include school teachers and some young, educated farmers from the village. Young school children should be encouraged to visit the block plantations periodically, to carry out some silvicultural operations under expert guidance, and to familiarize themselves with various plants and trees and the uses.

3.4.4 It would be in order at this stage to recapitulate from the project document, the objectives with which the block plantations were designed. The document states, "the development of a highly motivated and technically competent forest resources management group at the Panchayat level rather than the number of hectares treated or number of stems planted is recognized to be the objective of the H & SFD program". Unfortunately this goal has been lost in the race to complete the plantation targets and to hand over the management responsibility to the Panchayats after the stipulated three year period. The team strongly recommends that the SFD initiate immediate steps to remedy the situation. Two or three young and dynamic farmers should be selected from each project village to attend an intensive field-oriented training program lasting for about a week. The program should train them in the basics of forest management technology such as silvicultural operations, thinning and coppicing cycles, cleaning, replantings, measurement of crops, and estimation of yields. In the words of the project document, this group of young farmers would form the nucleus of a "competent forest resources management group".

### 3.5 Distribution of Produce

3.5.1 A GOM Resolution stipulates that the income from the sale of produce in community block plantations would be apportioned between the Panchayat and the State government in the ratio of 90:10. It also directs that at least 25 percent of the income accruing to the Panchayat should be earmarked for plantation management and maintenance expenses, including replacement. Fifty percent of produce is to be sold by public auction to people of the village and the remaining 50 percent should be sold to landless laborers and persons below the poverty line of the same village at half the market rate (as ascertained by the District Marketing Committee). Where the output falls short of the total requirements of the weaker sections, it is to be distributed on a pro-rata basis (Appendix XIII reproduces the Govt. of Maharashtra Resolution no SFP 1085/CR 160/D-31 dated 17/09/1985 which outlines these guidelines.)

3.5.2 At the time of the evaluation, grass, the only output, has been sold by the Panchayats, but not always to the farmers in the concerned village. Enquiries showed that in Western Maharashtra and some villages of Marathwada and Vidarbha, the grasses harvested were being sold only to the farmers of that village. In many villages of Marathwada and Vidarbha, however, the concern of the Panchayat does not appear to be equitable distribution but earning the highest price in the auctions. The needy villagers must then purchase from the auction purchaser. The Panchayats often argue that the block plantations are insufficient to meet the needs of the entire village, and hence, equitable distribution of output is not possible. In most cases this is true, for in designing block plantations, while the needs of the village were assessed, the size of the plantations and the output did not match these needs. This mismatch is not surprising because, according to the project document, the purpose of the block plantations was to serve as demonstration units for replication and extension by that village and other villages in its neighborhood. The block plantations will continue to remain isolated and irrelevant for the majority of landless and marginal farmers unless ways can be devised to provide an effective link between them and the plantations. Villagers and leaders alike must also internalize a conviction that the block plantations belong to the whole village, landless and women included, and the Panchayat is not the owner and arbiter, but only manages plantations on the villagers behalf.

### 3.6 Comparison of Planned and Actual Output

3.6.1 Until now, grass has been the only product of the block plantations, and that only recently in some block plantations. The usual method adopted by a Panchayat is to divide all of the harvested grass into a suitable number of heaps or lots and then to sell them either at the offered price to the villagers or to auction them. No record is kept of the weight or quantity of grass harvested; only the amount realized is recorded. Consequently, the team has not been able to make any comparisons between the estimated and actual output from the plantations.

### 3.7 Multiplier Effects and Sustainability

3.7.1. In order to sustain social forestry programs and, indeed, to promote them, community involvement is imperative. The community must participate in what M.S. Swaminathan has called "5 Ps": Planning, Planting, Protection, Propagation and Post-harvesting. Through interaction with a large group of farmers, Panchayat leaders, teachers, NGOS representatives and ordinary men and women (very few women were available), the team tried to examine and assess the extent to which the social forestry program was able to attract participation in the above critical spheres.

3.7.2. A village community in India is heterogenous, composed of people of different faiths, castes and classes. The deepest cleavage exists between the rich ex-landlords, who remain powerful de-facto landlords of vast areas of the village, and the poorer, landless or marginal small farmers. These comparatively better-educated rich farmers dominate the village Panchayats. In these conditions, the Panchayat ceases to respond to the lower strata of the village. Since the Panchayats are the legal entities representing the village, the SFD executed the social forestry programs in consultation with them. The village management plans drawn up by the SFD for each project village contain a mass of information with respect to demography, climate and soil, cottage industries, the village needs of small timber, fuelwood and fodder, the estimated expenditure and the output likely over a thirty year period from the date of plantation. While the numbers of landless, small and marginal farmers, SC/ST classes are all enumerated, the information does not appear to have been used in designing the programs to achieve distributive justice and equity.

3.7.3 In interviews and discussions with team, villagers stated that their need for firewood is not critical; it is being adequately met at present, free of cost, from several sources like agricultural residues and small twigs and branches collected from the large number of trees in farmers' fields. The landless laborer is allowed to collect cooking fuel free of cost by the farmer in whose field he works. In many villages, both project and non-project visited by the team, it was found that a large number of biogas plants were in operation, particularly in Western Maharashtra where all inhabitants of with some villages have biogas plants. A large number of energy saving smokeless stoves have also been installed. In all villages about 10 percent of the people use biogas plants, and 20 to 30 percent use improved stoves. It appears that now at least the huge firewood deficit perceived at the time the project was launched no longer exists.

3.7.4 Possibly as a combined effect of all of the factors enumerated in the foregoing sections, there have not been many instances of replication or extension of community block plantations in either the project or non-project villages. A notable exception is perhaps Western Maharashtra. Appendix VI shows that 136 villages in Kolhapur district have replicated block plantations; in Aurangabad, 31; and Akola district, one. If these districts are representative of the three regions, it only confirms other findings of the team that social forestry has caught in Western Maharashtra to a far greater degree than in Marathawada and Vidarbha regions. The team visited one such village, Narande in tehsil Hathkanangle of Kolhapur, where the plantation was begun by the Panchayat through a village youth club that has also assumed responsibility for protecting the plantations transferred from the SFD.

3.7.5 The number of voluntary agencies engaged in planting in the three selected districts of Kolhapur, Aurangabad and Akola and the number of seedlings planted by them follows the pattern of other data (see Appendix V). A larger number of voluntary agencies are actively planting in Kolhapur than in Aurangabad and Akola. It can thus be safely concluded that while the momentum of block planting on community lands by Panchayats would continue and perhaps pick up in Western Maharashtra as exemplified by Kolhapur, the situation in Marathawada and Vidarbha does not appear to be very encouraging. It is, however, possible that if some of the block plantations in these two regions survive until the harvesting stage and if a sizeable income accrues to the Panchayats it may act as a boost to the community block planting.

### 3.8 Improvement in Site Quality

3.8.1 One of the important benefits of the community block plantations and private plantations by farmers has been the improvement of the site. The soil, moisture and nutritional status of the site has vastly improved because of the plantation and protection against grazing - resulting in better and improved yield of fodder grass, prevention of soil losses through water erosion on degraded sites and build up of humus. By comparison, the unplanted have hard dry soils with very little vegetation. The plantations contribute to the ecological and environmental improvement of the areas.

3.8.2 All the members of SFD staff at various levels interviewed by the team were unanimous in their view that the few staff that they had could not do justice to the extension activity. This matter was raised even at the time of mid-term evaluation. In a tradition-bound society of villages, much time and effort is required to make villagers think differently and to encourage them to adopt new ideas and new technology. The team concurs that more time and staff are needed for extension of activities. Another matter linked with the number of staff is their mobility. The APOs' lack of a motorcycle or moped has severely restricted their mobility and limited their efficiency. Some other States have issued them, for example, Orissa where a Village Forest Worker (equivalent to APO) has been provided with a moped. The situation can still be remedied.

### 3.9 Women's involvement

3.9.1 The gains of the project have been constrained because women are not involved. In the villages visited by the team, no woman spontaneously offered her comments or suggestions. The SFD has not been able to recruit women as foresters and rangers who could more effectively involve local women in the program. Improved stoves, for example, could have been universally introduced in the villages with the extension work entrusted to a woman forester who could talk freely with village women and persuade them to insist that their husbands install improved stoves and biogas plants. It is ultimately women who suffer, for it is they who have to gather fuel and cook food for the family. Wherever women staff has been employed by SFD, as in Orissa, the results have been significantly better.

## Conclusions

1. The target of 81,000 hectares to be brought under community plantation in 4,300 villages was successfully met and surpassed.
2. Community plantations were promptly handed over to Panchayats for subsequent maintenance and management immediately after three years as stipulated.
3. Village management plans were prepared for all villages with some community involvement but no technical expertise was planned to be transferred to Panchayats.
4. After the transfer of block plantations to Panchayats, the chances of their replication and sustainability are much brighter in Western Maharashtra than in other two regions where Panchayats are relatively less prepared and capable of managing plantations.
5. No effort was made by SFD to develop a highly motivated and technically competent forest resource management group at the Panchayat level prior to transfer of plantation; moreover extension services provided immediately thereafter were not envisaged originally but are needed.
6. Benefits from harvesting have not yet started flowing in, except those from grasses. Their distribution has not been equitable so far.
7. While a large number of voluntary organizations are increasingly coming forward and planning block plantation, the replication outside the project has not been satisfactory except in Western Maharashtra.
8. Women's involvement in the program both as beneficiaries and functionaries was not adequate.

In retrospect a three year time frame for establishment and transfer was overly ambitious, given limited constraints on SFD extension and time and efforts required for change in attitudes and practices in tradition bound villages.

## Chapter 4

### PRIVATE PLANTING BY FARMERS

#### 4.1 General

4.1.1 The second major component of the social forestry project - has been private planting. The distribution of seedlings free or at subsidized rates to farmers for either block planting in their fields or field bund planting called "farm forestry". In community block planting the entire work from soil working to planting and subsequent protection for the next three years was the direct responsibility of the SFD with the consent of the Panchayat. In farm forestry the SFD is only involved in advising the farmer on the correct choice of species; the rest of the task of soil working, planting and protection is the concern of the individual farmer. The momentum gathered by farm forestry in its spread can, therefore, be a very valuable and dependable measure of the motivational and demonstrational value of the social forestry project. Having talked to a large number of farmers, Sarpanches, cooperative societies and other bodies engaged in planting or promoting tree planting, (see appendix II) the team unreservedly lauds the SFD staff in creating awareness, tree consciousness and even emotional commitment to tree planting among all classes of people in rural and even urban areas.

## 4.2 Demand for Tree Seedlings

4.2.1 The number of seedlings distributed by SFD and other agencies under the farm forestry program in the three districts increased from 1986-87 to 1987-88, but in 1988-89 it dropped suddenly (see Appendix IX). In 1988-89, the SFD stopped distribution of free seedlings, and the farmers had to pay a subsidized price. According to SFD staff, SFD nurseries deliberately scaled down nurseries productions and sale to farmers in order to help the new Kisan nurseries. The production and sale of seedlings from Kisan nurseries in Kolhapur district has steadily increased from 1987-88 to 1990-91. Quite a significant contribution has been made by other agencies like the cooperative sugar factories, school nurseries (1990-91), forest department (1990-91), Sewa Society Sangh (1990-91), cooperative spinning mills (1990-91) and the Shetkari Sahkari Vriksha Lagwad Sanstha (see Appendix V). Figures are not available for the two other districts.

4.2.2 Since 1990-91 the GOM has launched a scheme for planting fruit trees on private farmers' lands with 100 percent subsidy. Western Maharashtra is implementing this scheme most enthusiastically, and reactions from farmers in the other districts of Akola and Aurangabad were also extremely positive. Many farmers were keen to take up large-scale planting of fruit trees under this scheme, but limited funds and the limited supply of fruit plants meant most could not participate in the current year. All farmers who have suitable land with facilities for irrigation will probably switch to fruit trees in the next season. The main attraction of the scheme is 100 percent subsidy. Another factor which is increasingly pushing farmers toward tree planting is the steep increase in the farm labor wages and the increasing scarcity or reluctance of laborers to work in other farmers' fields. The increasing cost of other inputs such as fertilizers and pesticides, irrigation and power, is pushing profits down. These factors spur increased tree planting.

### 4.3 Changing Patterns in Demand for Tree Seedlings

4.3.1 The pattern of demand for various tree species is changing. In addition to the change to fruit species discussed above, the demand for species such as teak, shisham, neem, baboul and bamboo has grown for nilgiri has decreased. The farmers have grown more discriminating as they realize that premium timber species bring a far better price than nilgiri, which is now saturating in the market. This trend is visible not only in Western Maharashtra but even more in Aurangabad and Akola, parts of which had and still have very good teak forests. Sura (casuarina) is also being increasingly planted for use as poles and rafters in tiled houses. The team was pleasantly surprised to see Seabul timber need in various ways. For example, a farmer, Mr. Bansi Lal Sancheti of village Waijapur in Aurangabad district, has nearly 40 ha of farm area with a large plantation of subabul trees of various age gradations. About four to five year-old subabul poles are used as stakes in his extensive vineyard and will last eight to ten years. Previously he bought expensive bamboo for this purpose. Seabul trees that grew 35 to 40 cm. in diameter in 15-20 years were enough timber to build his house. Rafters and purlins, door and window leaves and frames, tables and chairs and even round rulers for use in textile industry all have been fashioned out of subabul timber.

#### Need for firewood

4.3.2 An important finding that emerged from the team's discussions with the farmers was their perception about firewood needs. The social forestry projects in almost all States started with the basic premise that firewood, fodder and small timber were the most pressing needs. The planners came up with weighty statistics showing how precarious the firewood supply was in the villages. But the farmers' perception of firewood need was different.

Farmers in U.P. refused to plant any firewood species as they did not wish to use their scarce land resource for a product that had no monetary value. Their needs were being met in various ways, and while these substitutes were not ideal cooking energy, yet the farmers did not feel the kind of deprivation that would force them to utilize a part of their land to grow firewood. All wanted to go in for cash crops like nilgiri; fodder and small timber were certainly needed, but not firewood. In Maharashtra too, the farmers interviewed made it very plain that firewood was not their immediate concern. Whatever may have been the status of firewood at the time the project was launched, the situation today is that most of the need of farmers and even landless persons are being met by alternative sources. Perhaps the introduction of biogas and improved wood stoves and the availability of kerosene has helped diminish demand for firewood in the village. The most needy people are the salaried class who live in small townships springing around new industrial ventures. They have very few options and are dependent on the purchase of firewood in the market.

4.3.3 However, the lack of participation by women may color the team's findings. Firewood as cooking energy is unquestionably far superior to the alternatives of agricultural residues being used in the rural areas. Given a choice, perhaps, the women would prefer firewood billets, even if it means an expense in monetary terms or in labor in growing firewood crops. But the tragedy is that, as of today, women still do not have a voice in such crucial decisions as to the kind of fuel that they would prefer to cook the family's food. A second aspect of the matter is that for the landless laborer, lack of firewood at affordable price may force him to forego a part of his wages in exchange for the "benefit" of so called "free" collection of agricultural residues from the farmer's field.

4.3.4 The team visited a few retail firewood depots to ascertain how they were getting firewood and the retail sale price. The prevailing prices were approximately Rs. 40/- per 40 kg., and the source of firewood were the baboul, mango and other trees which had dried tan and saw-mill waste. According to the depot owners, their customers were landless people who did not work as agricultural laborers. Farmers felt that they were able to attract field labor by promising the free removal of agricultural residues and even dry wood from trees. The team visited a landless agricultural laborer's house in a village in Kolhapur district to enquire how he met his firewood needs. To the team's surprise, this landless laborer had a T.V. set, a radio, rows of stainless steel utensils, a neat smokeless chulha and a heap of sugarcane roots gathered from the field of the farmers where he was employed as a laborer. His wife and daughter-in-law very proudly pointed out that only the men worked, and the women looked after the household. His prosperity was the result of a buffalo which he had purchased from his savings and which earned him an income of nearly Rs.3,000/- a month apart from his daily wages. He was supplying milk to a cooperative which was collecting it milk at his doorstep.

4.3.5 The following conclusions emerge:

i) There is an increasing trend of private plantings in the state, with some regional differences - the momentum being high in Western Maharashtra as exemplified by Kolhapur and only moderate in Marathwada and Vidarbha. Medium and large landholders are going in for block plantations while small and marginal farmer for field-bound plantings.

ii) Medium and large landholders are also turning increasingly to tree farming because of the increase in labor, fertilizers, irrigation and power costs. The shift from nilgiri to more fruit and timber species is marked, especially medium and large landholders who can afford to wait for large rotations required for such species. In Western Maharashtra even the small landholder prefers to plant high yielding( monetarily) teak and other timber trees and fruit trees in place of short-rotation firewood species.

iv) There is an urgent need for an extension service to help the farmers realistically estimate yields and monetary returns at various rotation and for various agro-climatic zones.

v) The research efforts to collect data on growth and yields and also on various agro-forestry models need to be strengthened if the interest of the farmer in the tree culture is to be sustained.

#### 4.4 Estimates of Yield and Out-turn

4.4.1 With the increasing interest and sophistication showed by farmers in choosing tree species, the shortfall in the extension services of the SFD is a constraint. The farmer chooses to plant trees, not for the ecological considerations, but for increased income. He is, therefore, ambitious to have a more precise information on market forces, the estimates of yield at various ages, and harvesting cycles for various species. The SFD does not have any mechanism to provide this service to the interested farmers. The general volume tables that may be available for some species like teak, sisoo, and baboul are for forest conditions and would not give any accurate forecast for farm plantations. Sample plots should be laid out in a large number of Panchayats and private plantations that include various soil and climatic conditions so that accurate forecast can be made for the yield (see the chapter on research).

#### 4.5 Large-Scale Private Holdings on Degraded Hill Slopes

4.5.1 One of the prominent and unique landscape features in Maharashtra are the bare hill slopes and tops that still have a sufficient soil to be reclaimed with very little effort. Tree planting can provide protection from the herds of cattle. Some of these areas, one hopes, will be reclaimed under the fruit tree plantation scheme of GOM. However, all areas would not be suitable for fruit trees and drought resistant hardy species like baboul, glyricidia, cassia, neem, and sisis could be very successful. Concerted effort needs to be made in making finance available to these farmers on easy terms so that they can reclothe these naked slopes. It is unfortunate the NABARD is not supporting, aggressive financing of reforestation projects. Teams from NABARD should approach farmers with attractive and innovative schemes to persuade them to use NABARD financial help in planting up such lands. Having travelled extensively in the Maharashtra State, the team feels that the social forestry project is timely. Erosion has not yet completely destroyed the growth potential of trees on the bare hills and slopes, but deep gashes are already appearing where the land has been cut to the underlying rock. Immediate steps must be taken on a massive scale to start plantation programs and help the farmer.

#### 4.6 Removal of Constraints on Felling and Transport of Social Forestry Produce

4.6.1 One of the irritants has been the need to obtain permission from the forest department for felling and transporting trees. The GOM has removed this irritant by amending various rules to exempt four species: nilgiri, subabul, baboul and prosopis.

## Chapter 5

### MARKETING OF PRODUCE

#### 5.1 General

5.1.1 With the large scale planting by the SFD in community blocks and by farmers on their private lands, marketing the produce is crucial. Farmers have made investments of planting of various species, land, labor and money in order to earn a handsome return when the produce is harvested and sold. Monitoring market conditions and informing the farmers is critical. The visits to villages and interviews with a large cross-section of farmers led the team to conclude:

i) The SFD has no mechanism to monitor the market conditions and/or no information system by which, even where the information is available, to communicate it to the farmers.

ii) The average farmer had very hazy ideas (based on some old information available or communicated to them of some past sales conducted by a farmer, somewhere, sometime) about the return he is likely to get from his plantations.

iii) Neither the SFD nor the farmer has any precise idea of the volume yield from the plantation of various ages and species .

iv) Management plans drawn up at the time the block plantations were begun are irrelevant today, but they have not been updated. They do not predict yeild for private farmer's fields.

v) The recently initiated efforts (see Appendix XV and XVI) for time-series measurements of trees in private and block plantations to record the growth rate under different conditions should also be expanded.

## 5.2 Discussions with Kirlosker Consultants

5.2.1 The team had detailed discussions with Kirlosker Consultants, who were completing a study on marketing of forestry products. The observations made in the subsequent paragraph are based on the preliminary study and the team's observations and discussions in the field.

5.2.2 Most of the plantating by the farmers has been on their field bunds; only a few big farmers have done block planting. Nearly 80 percent of the trees planted are eucalyptus, except in Ratnagiri where teak, subabul, and acacia predominate.

5.2.3 The growth of eucalyptus has generally been poor except in favorable localities. Some plantations have, however, yielded very good returns; Azra village Panchayat in Kolhapur district, for instance. It sold a 15-20 year old plantations of eucalyptus (planted by the Forestry Department and transferred to the Panchayat about 2 years ago). A 20 ha. plot earned a price of Rs. 7 lakhs, an average of about Rs.35,000 per ha. The number of trees sold is not given nor the diameter of the trees. However, if an average of 1,000 trees/ha. is assumed as having survived, the price per tree comes to Rs.35/- only. If only 500 trees/ha. is assumed, it comes to Rs. 70/- only. A private farmer of Azra village sold a 20 year old eucalyptus plot containing 90 trees for Rs.1.5 lakhs or over Rs.1600/- per tree. The vast difference in the price can only be explained in terms of much better diameter growth due to better soil, moisture conditions and even perhaps fertilization.

5.2.4 The majority of the farmers who have planted trees do not intend selling them but plan to use the trees for their own needs.

5.2.5 A survey of saw mills indicated that they were using teak, mango, terminalias, tamarind, goldmohar, and nilgiri etc. in the mills. With the focus on the fruit trees, there will be a very great demand for packing cases in a couple of years and species like subabul and nilgiri will be in great demand in the packing case industry. Subabul is already being used in cabinet making and construction. In general, the saw mill did not purchase nilgiri direct from the farmers, but from the agents.

5.2.6 A few tree growers cooperatives spearheaded by the Nilgiri Sahkari Utpadak Sangh of Nashik are functioning; however, only this and one other cooperative are active. The other 40 are idle.

5.2.7 Mr. M.G. Patel of Kolhapur converted his 1.5 ha. sugarcane field into a plantation of eucalyptus, of 6000 seedlings, 4000 plants. He could not find a market for his five-year-old eucalyptus trees. The Mysore Paper Mills offered him only Rs.600/- per ton on-farm site. At factory gate they were purchasing at Rs.800/- to Rs.1,000/- per ton. Ultimately he had to conduct a distress sale and 4000 trees got him a price of Rs.54,000 or about Rs.13 per tree. He had, however, to incur an expenditure of Rs.2,000 to uproot stumps to make it suitable for sugarcane cultivation. His, however, does not appear to be a typical case, nor is it uncommon. In other villages the Panchayats received offers of about Rs.5 lakhs for a 20 ha. plot of eucalyptus which was five-years-old. If the survival is 1500 trees/ha., the price per tree is just over Rs.15/-. This rate is also unsatisfactory and points to poor planting stock, lack of proper cultural operations and indifferent care of the crop. In neighboring states a well grown five year-old pole fetches a price of between Rs.25/- to Rs.30/-.

### 5.3 Future of Eucalyptus Crop

5.3.1 Some of the observations of Kirlosker Consultants support the team's own observations. Eucalyptus grown on unsuitable sites never increases in girth; however, even in the most inhospitable sites, it seldom dies. It attains a height of around 7 to 10 metres but remains lean and thin without gaining in height or girth for years and years. Even on better sites the crop is extremely variable because no attention is paid to seed collection. About a third of the crop remains poor in height and girth while the rest grows well. In situations like these, the farmer faces a great deal of disappointment. In Kemeru village of Satara district the team was shown the large plantations of eucalyptus raised by a farmer family (Sajjan Rao and others). Eucalyptus has been planted on eroded and poor hill slopes (see photographs of these plantations); most on the slope had poor development compared to those raised at the foot of the slopes where soil and moisture conditions are better.

5.3.2 Whenever eucalyptus crops have been grown in good and moist soils, the farmer should be advised to retain his crop for 10 to 15 years in order to increase his return. Bigger timber earns a much better price, but how much and at what size he should cut are matters that must be researched.

5.3.3 Eucalyptus crops grown on unsuitable sites (like those in Kemeru village mentioned earlier) should be harvested regardless of price. The sites should be replanted with other species more suited to such sites: babul, subabul, glyricidia.

#### 5.4 Marketing Organization

5.4.1 Kirlosker Consultants have pointed out that all but a few tree growers cooperatives exists only on paper. The Agriculture Produce Multipurpose Cooperatives (APMC) handle the marketing of various agricultural produce, but they are not interested in marketing forestry produce. In U.P. where farmers faced a similar situation, the U.P. Forest Corporation was asked to purchase some farmers' plantations as a trial. The farmers were satisfied with the price offered by the Corporation (about four years ago - about Rs.400/- per ton of standing crop), and the Corporation sold the produce without loss or profit. The team is not aware whether any standing arrangement has been made with the Forest Corporation on the basis of this pilot trial.

5.4.2 Meanwhile, the question of extending marketing support to farmers has to be seriously debated. The SFD already has two computers that could store and analyze the market information. If information about the kind of organization needed in the field and at headquarters is not included in the Kirlosker research study, another study may be necessary.

## Chapter 6

### EXTENSION, TRAINING AND RESEARCH

#### 6.1 General

6.1.1 The term social forestry came into vogue with the report of the National Commission on Agriculture in 1976 where it was used to describe forest plantations to meet the needs of the village communities as opposed to commercial or production forestry meant for urban and industrial needs. While the forest departments had been planting in forest areas for a long time, the social forestry programs with the stated object of planting on community land and in private holdings of farmers with the active cooperation of the villagers was very different. Social forestry not only needed entirely new concepts of equal participation and partnership between the villager and forester at all stages, it also required the forester to change his attitudes and perceptions of his own role. It also created problems for village communities that could not understand and appreciate the philosophy of social forestry, much less the need for their cooperation and participation in the program. In this scenario, one can not expect dramatic changes in just seven years. Instead the team has tried to study the trend towards change, the level of acceptance of the new concepts and implementation of certain schemes introduced in the project to facilitate change. All these factors are crucial for the sustainability of the program.

6.1.2 In this context the team feels that SFD has made commendable efforts in spreading the message of social forestry throughout Maharashtra State. The team saw a tremendous awareness and tree consciousness everywhere and fully endorses the finding of some research studies that almost 90 percent of village population of the state knows about social forestry and its objectives. Villagers not only recognize trees as economic assets but also their value in environmental and ecological conservation. This change has been achieved in spite of limited financial, technical and personnel resources and in spite of the constraints imposed by an all-pervasive bureaucracy. The level of awareness may not always be reflected in actual practice but the initial steps have been taken. The need for extension and training is well understood and appreciated.

## 6.2 Extension

6.2.1 Extension is basic to the implementation and sustainability of social forestry. To strengthen this component, the SFD provided extension training at several institutes like the State Administrative Training Institute, the Forestry Training Institute, Tata Institute of Social Sciences, and Jamnalal Bajaj Institute of Management. Senior levels were sent to training institutions outside the country as well.

6.2.2 The team felt that, in spite of the training programs, extension needs to be strengthened both as a concept and as a technique. Extension requires interaction and rapport with the people and a full understanding of the socio-economic realities in the village. The needs of various socio-economic groups differ; for example, a well-to-do farmers use biogas or even LPG and thus reduce the demands for firewood. The poor still depend on firewood and women, who have the responsibility for cooking the family meals, can best articulate this need. But without women-members among the SFD staff, women's wishes and needs are not reflected in village policies and decisions. In keeping with the GOI policy of having 30 percent women's participation in all decision making, the SFD should also fix a minimum percentage of women to be recruited at various levels, particularly as APOs. Women's ability to communicate, particularly with in rural people, would facilitate social forestry implementation.

6.2.3 The SF project had suggested a scheme of motivators and for some years they were recruited and doing good work. However, an administrative decision taken at the Secretariat level suddenly reversed the whole process and the motivators were dispensed with. The team feels that the scheme should be revived as there is still an urgent need to continue the good work done in the past.

6.2.4 Publicity is also part of extension. Each district has a 16 mm projector, but lacks a vehicle and trained personnel to operate projectors; therefore, they are unused or underutilized. If all districts cannot be provided with mobile publicity vans, it might be a good idea to have mobile publicity vans for each region and to establish a systematic schedule for visits to each district.

6.2.5 Another serious shortcoming is that Assistant Plantation Officers (APOs) lack mobility. Plantation Officers (POs) have been provided with motor cycles; the APOs have not. Their efficiency could be markedly increased if each had a moped. The demand was voiced to the team members who strongly support it. An APO works with 25 to 30 project villages, a burden that increases as new villages are included. Even after the plantation is handed over to the Panchayat, the APO should visit frequently to monitor its condition and to advise the Panchayat. He cannot do all this without a conveyance at his disposal.

6.2.6 The APOs are responsible not only for the villages where project plantations are to be carried out but also for villages that already have project plantations. The number of APOs should be increased from two to three per taluka (subdistrict). One of the APOs should be responsible only for extension; the other, routine plantation activity.

6.2.7 In spite of the areas where improvements are needed, spectacular gains in extension have been made:

i) Social forestry awareness and tree consciousness is widespread in the state; a research study concludes that almost 90 percent of the village population is aware of the social forestry program and its aims.

ii) Village educational institutions have been sensitized to social forestry through school nurseries, plantation of trees in institutional compounds, and participation in NSS camps.

iii) NGOs are increasing involvement in tree planting, nursery raising and distribution of seedlings. In Vidarbha region, the team found a leprosy mission raising seedlings and operating a nursery. The nursery earned income for the mission and provided gainful activity to the mission members.

iv) Sugar cooperatives have begun nurseries to provide their members with seedlings of various species, including quality, grafted plants of a large number of fruit species.

v) In some villages there is a strong emotional commitment to trees, so much so, that villagers are adverse to felling any trees in community blocks or in their own holdings.

### 6.3 Training

6.3.1 SFD has been training in various operations of social forestry at the village, district, regional, and state level. (Appendix XXII gives a detailed list of the number of courses and participants and the expenditure incurred from 1983- 84 to 1988-89.) The numbers of participants trained during this period at the various levels is summarized below -

|      |   |            |
|------|---|------------|
| i)   | village level (laborers, watchmen, motivators, plantation kotwals, sarpanches, teachers and social workers).          | 90,466     |
| ii)  | District level (Gram Sewaks, Panchayat Samity members, sarpanches, APOs, students from schools and colleges)          | 60,311     |
| iii) | Regional level (District level officers of various Department., Social workers, Dy. Directors, Asst. Directors & POs) | 10,453     |
| iv)  | State level (Jt. Directors, Dy. Directors Asst. Directors, POs and APOs)  | 766        |
| v)   | Officers trained outside  | 33         |
| (vi) | (a) Female participants   | 20 percent |
|      | (b) Office staff  | 10 percent |
|      | (c) Other categories  | 70 percent |

6.3.2 A large number of training institutes, notably the forest school, the Tata Institute of Social Sciences, and Jamnalal Bajaj Institute of Management focussed the training on the technical forestry subjects at the expense of the social and extension fields. Trainers, primarily from the SFD staff, own sensitivities and understanding of social issues needed further strengthening. Recently experts from other institutions have been invited to do some of the training, so it has been more balanced. The team could not get a clear picture of the type or extent of training available for women.

6.3.3 The project has not met its goal of creating "a strongly motivated and technically competent forest resources management group" at the Panchayat level. Perhaps accomplishing this goal in three years was overly optimistic because Panchayats are political bodies with diverse activities and responsibilities. Subcommittees specifically for the purpose of managing the village plantations need to be organized and trained.

6.3.4 A major impediment to adequate training and extension appears to be lack of adequate finances. For example, money is not available to hire suitable guest faculty to train APOs in extension methods. The administrative procedures to invite professionals from outside should be liberalized, and more money made available for this purpose. The SFD should examine the need for a staff sociologist.

6.3.5 The Forest Department should consider establishing an Institute of Social Forestry to train all staff. Because staff move frequently between regular territorial divisions and social forestry divisions and because they lack continuity in training, the new entrants in social forestry do not have the special skills needed in the field. An institute may ultimately prove economical and effective: in addition to training social forestry staff, it could train the workers of the Forest Department from among whom the SFD draws its staff. For long term sustainability, adequate grassroot training of SF personnel and villagers should replace the "one time learning" now practiced; the concept of training should change to ongoing and on-the-job training.

6.3.6 Such an institute could also train the "trainers". Because SF personnel provide the bulk of training, a body of trainers needs to be established.

#### 6.4 Research

6.4.1 The Tata Institute of Social Sciences, Kirlosker Consultants and Institute of Rural Development Studies consultants have been hired to do a number of research studies. (A list of the studies is in Appendix XVII). Although some of the studies are not complete, the team noticed a positive response towards the findings of the studies among the SFD personnel and a genuine desire to learn and remove the deficiencies in the design and implementation of the social forestry program.

6.4.2. Research in the technical fields of social forestry is essential because large private plantations are being established both in pure blocks and in mixture with various other crops. Preparation of local volume tables of common species in use, study of the efficiency of agro/forestry systems, silvi-pastoral systems, methods of managing mixed plantations, grass and leaf fodder yield, and a number of related fields need careful, time-consuming research. The team understands that a detailed study on research needs of social forestry has been commissioned by USAID and should be available soon.

## 6.5 Women in Social Forestry

6.5.1. Participation of women in social forestry, as extension agents and motivators as well as actual implementers of the program, is considered critical. Therefore, a separate section on women's participation is included in this report.

6.5.2 Women's participation is advocated for two reasons. First, women are nearly half of the population and the prime consumers of the forest produce. Secondly, women have more at stake, as it is women who use firewood for cooking and who organize fodder collection for cattle. These factors have been repeatedly mentioned and were highlighted in the mid-term evaluation. Almost all the studies conducted on social forestry under the project have addressed the issues of women's role in social forestry and have advocated a more active role for them. But despite these efforts, the team observed that the women's involvement is minimal at best.

6.5.3 In the earlier stages of the project, women motivators were recruited but later removed due to administrative problems. During its field visits the team met very few women. On the insistence of the team, in a few places women were specially invited but they did not express any sense of participation in the SF program. The team was informed that women were doing everything but this was not apparent. Obviously, they are nowhere in the decision-making process, and consequently, they remain invisible.

6.5.4 The efforts of SF staff to involve women do not appear to have been successful. The Tata Institute Study on "women's role in social forestry" found that 80 to 90 percent of the laborers employed in the SF program were women, but they did not participate in decision-making. Their drudgery in collecting firewood continues. The study has suggested the following action with which the team concurs.

- (a) Women's tree cooperatives should be encouraged.
- (b) Women should be appointed at all levels of SF programs, especially as extension workers.
- (c) Mahila Mandal should be assigned special duties to propagate the need to protect plantations.
- (d) All training programs, including technical must include at least 30 percent women.
- (e) Facilities for Kisan nurseries should be specially provided to widows and abandoned women who have the required resources and capabilities.
- (f) One of the two women members of the Panchayats should be made a member or chairperson of the plantation management committee of the village Panchayat.
- (g) The scheme of motivators should be revived, and more women motivators should be recruited. The SFD is urged to find a solution to the administrative problems encountered earlier.

## Chapter 7

### MONITORING AND EVALUATION

#### 7.1 General

7.1.1 Monitoring and Evaluation (M&E) is a very important function related to midcourse correction in project implementation because it provides project managers with feedback data. A monitoring and evaluation unit is working under the Director Social Forestry at headquarters with the requisite staff; however, the unit has not been provided with the field investigators as provided in the guidelines on M & E drawn up by the GOI (red book). The team's enquiries revealed that the Joint Director (JD) in charge of the unit is also responsible for various other duties not connected with M & E; his varied responsibilities, therefore, reduce his effectiveness.

7.1.2 The major efforts of the M & E unit have been directed towards survey of project villages and verification of reimbursement claims. The field work is carried out by the field staff of the local deputy directors and, where necessary, workers hired on daily wages. While this does involve physical monitoring of plantations raised under various models and their survival, it is a mere count of numbers of plants surviving at a particular moment and it falls far short of the aims of monitoring and evaluation.

7.1.3 The mid-term evaluation mentioned the development of a system to monitor the activities of the extension staff under them and complimented the SFD on steps to put in place the red book-recommended monitoring procedures. In addition the mid-term evaluation report made a number of recommendations: nursery and plantation monitoring; the monitoring of benefit distribution by sex, status and size of land holdings, and the quantity of produce sold outside the village; extension monitoring; training monitoring; and market conditions monitoring. These recommendations were ambitious based on the monitoring unit staff strength. The team has not found any of the monitoring reports of the kind recommended in the mid-term evaluation report except a report on Kisan nurseries.

## 7.2 Supply of computers

7.2.1 Another of the recommendations of the mid-term evaluation was the provision of computers to computerize monitoring and evaluation. The team met with Mr. Joshi, the consultant with SFD charged with setting up the computer system. The computers had been supplied nearly two years ago by the National Wastelands Development Board (NWDB) but, in the absence of a trained programmer and operator, they had been unused. Along with the computers the NWDB had also sent software package based on the redbook. The computers have now been installed and are operational, but there are problems in feeding the monitoring unit with proper data. One of the major duties of the monitoring and evaluation unit, it appears, is to prepare various forms needed by the government. The data from the field is supplied by the DDs, consolidated, and forwarded to the Director. According to Mr. Joshi much of this data is in a form which cannot be fed to the computers. He mentioned that, in spite of pointing this out to the field staff and sending instructions on how the data is to be sent, the situation has not improved. Part of the problem, according to him, is that there is no single authority at headquarters to ensure the compliance. At present the M & E unit is without a full time JD, as the previous incumbent is abroad on training.

7.2.2 The function of monitoring and evaluation has not been taken seriously. The full complement of staff as provided in the guidebook on M & E (red book) was not approved. The staff of M & E unit was utilized or misutilized on routine day to day work of SFD. The SFD has to provide continuing assistance and advice to farmers on social forestry critical issues such as silvicultural management of tree crops, nursery management, seed supply and marketing support. To provide support, the computer consultant should reorganize the M&E unit and create a data base that would streamline the preparation of routine reports and provide guidance and support to the field staff. The appointment of the computer consultant is the first step in building an effective M & E system. The results will depend upon the support and cooperation he receives in diagnosing bottlenecks in supply of proper data and in educating the field staff of SFD, including senior levels, in data - base monitoring and management.

## Chapter 8

### CONCLUSIONS AND RECOMMENDATIONS

#### 8.1 Findings

8.1.1 The purpose of this evaluation was to examine the issue of sustainability of private and community plantations as well as departmental and private nurseries established under the project and determine the extent to which communities have assumed the management responsibilities for community plantations, the extent to which research, extension and training activities have fostered sustainability and the extent to which key external factors such as pricing and marketing structures have promoted or constrained sustainability. The main findings under appropriate headings are summarized here in this chapter after the statement on overall progress or achievements of the project.

8.1.2 The overall finding of the team is that, at the end of the project, the Maharashtra State has a full fledged Directorate of Social Forestry manned by a team of strongly motivated and trained personnel. A remarkable attitudinal change among the staff is evidenced by a much broader outlook and greater empathy the villagers' needs; they appreciate the need for close integration and interaction with other development departments and have adapted themselves very well to the role of extension worker. The social forestry activities continue on a much increased scale, even after the funds for plantations under the project ended in 1987-88, they have used resources available under various rural development schemes of the GOM and GOI. As envisaged in the project, the management of the community plantations has been transferred to the Panchayats which are, by and large, protecting them well. However, there is a need to create small Panchayat subcommittees and to give them management skills so the Panchayats can operate the block plantations on a sustained basis. In short, the major positive achievements of the project are in institutional development, which should be conducive for the sustainability of community and private plantations begun under the project.

8.1.3 At the end of the project, the achievements of the project are as below:

| <u>As per Project Paper</u><br>(Annex 2 of MSFPD)                      | <u>Actual Achievements</u><br>as per record made available  |
|--|---|
| 1. 4,300 villages to be actively involved in management of plantations | 4,300 villages covered under the plantations  |
| 2. 81,000 ha to be planted   | Total area planted under the project about 75,000 ha's during 1988-89 and 1989-90; a total of 1,98,000 ha raised                  |
| 3. Social Forestry Organization to be fully functional                 | A full fledged Directorate of Social Forestry fully operational   |
| 4. Nurseries to supply 23 million seedlings annually                   | Seedling production in 1986-87 (the last year for project plantation) was 45.8 million; in 1989-90, 169 million seedlings raised. |
| 5. Demand for seedling increasing                                      | Yes (see para 2.3.5. and App. VIII)   |
| 6. Increasing areas being covered with plantations                     | Yes (see App. XIV)  |
| 7. Yield from plantations to be on an average 10 M3/ha/yr              | Output could not be compared (see para 3.6)   |
| 8. 4,300 management plans to be accepted by Panchayats                 | Yes   |

The following is a summary of the findings of the team on various evaluation questions addressed in the scope of work.

## 8.2 Trend of seedling production/distribution

8.2.1 There has been an overall increase the production and distribution of seedlings through the Kisan nurseries, SFD nurseries, sugar cooperatives, horticulture and forest departments and some nurseries operated by voluntary agencies. When free distribution and subsidized rates for seedlings stopped, there was a slight drop but since then an increase is apparent.

8.2.2 A very healthy sign noticed was that the demand for Nilgiri seedlings appears to be dropping and the demand for timber trees like teak and fruit species is increasing. The boost to the fruit species has been provided by a scheme of Maharashtra Government under which 100 percent subsidy is available to individual farmers who plant fruit species.

8.2.3 A number of nursery beneficiaries and some others asked the GOM to continue with the subsidies to nursery beneficiaries even after three years and to scale down the subsidy in stages spread over a several years. The team feels that if nursery seedling production and sale is to operate on a commercial basis in an open market, subsidies should be stopped but accepts the concept of a decrease over three years. The team also feels that the project placed an undue stress (and this was voiced by several SFD staff as well) on the choice of small and marginal farmers below the poverty line as nursery beneficiaries. The primary purpose of a nursery is to raise healthy plants and to distribute them in a timely manner to the farmers. A quality and healthy seedling helps ensure a

healthy and vigorous crop. In selecting and promoting a nursery beneficiary, the focus should have been on dynamism, availability of suitable land and irrigation facility, and leadership quality. The nurseries should not have been looked upon as a beneficiary-oriented program; instead the nurseries should have been treated as growth centres of the SFD program. Perhaps the results would have been far superior, not only in the continuation of the same individual in the nursery business (a research study by Kirlosker under preparation has concluded that only 10 percent of the nursery beneficiaries have continued with nursery operation after three years), but in the efficient production of seedlings such as fruit and timber that require greater care and longer time in the nurseries. With the rising demand for fruit seedlings, and with people prepared to pay for them, the poor and marginal beneficiaries operating nurseries on leased land have little chance of staying in the business against efficient large nurseries producing quality seedlings.

### 8.3 Seedling Pricing Policy

8.3.1 The cost of raising seedlings at the start of the project was estimated at Rs.0.25 per seedling: 0.08 for labor; 0.15 for material; and 0.02 for leasing of lands and contingencies. According to the project paper, the SFD was to supply the material worth 0.15 free. The SFD was to purchase the seedlings at the cost of production (0.25) minus the cost of material given free (0.15). Thus the nursery owner was to be paid only an amount of 0.10 for each seedling at the time of purchase. If he raised 5,000 seedlings, he earned about Rs. 500/- over a six month period. (See pp. 28 of Project Paper).

8.3.2 In order to earn as much after the subsidy has been removed, the nursery owner will need to raise almost twice as many seedlings and sell them at the top price. In October 1986, the Government of Maharashtra issued guidelines for selecting Kisan (private, decentralized) beneficiaries and for fixing the sale price of seedlings. The maximum price of seedling for sale to farmers was fixed at 0.45 per seedling in polythene bag. Unsold seedlings were to be purchased by the SFD at 0.20 each. The project provided polythene bags, seeds and pesticides, to the beneficiary free of cost and paid an additional 0.10 as a cash incentive. The subsidy of cash and material was available to the beneficiary for three years after which he was expected to be on his own. Selling the seedling at 0.45 and getting a cash incentive of 0.10 from SFD, the nursery owner received 0.55 per seedling. His only investment is his own labor, so he earns 0.55 per seedling for his efforts. If he sells to the SFD at 0.25, his return falls to only 0.35. If the nursery owner raised 5,000 seedlings his income varied between a minimum of Rs. 1,750 (@ 0.35) and a maximum of Rs. 2,750 (@ 0.35). After a period of three years, this arrangement ended. Assuming that he were still able to sell at 0.45 and assuming that he has to invest 0.15 in material (polythene bags, and insecticides), his return falls to only 0.30 per seedling.

8.3.3 In actual practice the maximum sale price of 0.45 fixed by the GOM for subsidized Kisan nurseries is not enforced. When the demand outstrips the supply, the nursery owner can charge more. At the same time he also sells at a considerably lower price if there is a drop in demand, and occasionally has to resort to selling the seedlings to the SFD at the minimum rate of 0.20.

8.6.4 One of the problems faced by the private nursery owners is the competition he faces with SFD nurseries which sell seedlings for 0.20 only. The Maharashtra Government has promised to study the pricing of SFD nurseries and correct the discrepancy.

#### 8.4 Status of Community/Private Plantations, Benefit Distribution, and Multiplier Effect

8.4.1 Almost all of the community plantations have been transferred to the Panchayats after three years as stipulated in the project. These plantation blocks are being maintained very well in Western Maharashtra where the idea and practice of social forestry has caught on; infact the Panchayats have extended community plantations on their own and enriched the existing plantations with fruit trees, bamboo, and casuarina on the boundaries and in gaps. The situation, however, in Marathwada and Vidarbha regions is not as good. In Marathwada nearly 30 percent of block plantations have already deteriorated or been damaged after their transfer to Panchayats. In Vidarbha the situation is even worse; almost 50 percent of the block plantations have been damaged. The primary cause is the large herds of cattle, sheep and goats that graze in the blocks and the unwillingness of some Panchayats to maintain blocks. Fewer block plantations have been extended by the Panchayats in these regions.

8.4.2 Large scale private plantations have developed, both in blocks and along field-bunds in Western Maharashtra. Almost all the farmers in Western Maharashtra have planted trees on their private holdings. In Marathwada and Vidarbha the response has not been as good as in Western Maharashtra because both regions have sizeable state forests that meet their needs. Even so, in accordance with the general trend in the three regions, Marathwada appeared to have done more private planting than Vidarbha. However, more medium and large farmers are now deciding to plant trees, especially fruit species, because of the 100 percent subsidy on fruit species and because agricultural labor and other inputs are becoming prohibitively costly. The major fruit species are bananas, citrus, anona, bor, and pomegranate.

8.4.3 Benefit Distribution: The community plantations have not yet begun felling operations. The only produce that has been harvested until now is grass. The GOM laid down guidelines in 1985 about the distribution of produce that stipulated that 50 percent of the produce was to be reserved and 'sold' to the weaker sections (landless laborers and persons below the poverty line) of that village at 50 percent of their assessed market price. The remaining 50 percent was to be auctioned to the people of the same village. In Western Maharashtra, the team felt the guidelines were met but the picture was somewhat confused in Marathwada and Vidarbha. In fact, the demand for fodder grass far outstrips the production from the blocks. Thus even if all the grass harvested is reserved only for the weaker sections, it is not enough to meet their needs. Some Panchayats have held open auctions of harvested fodder grass irrespective of whether the bidder was an outsider or belonged to the same village; in other cases, the team was informed that the Panchayat gave away the grass at the prices the weaker sections were capable of paying. The procedures of benefit distribution must be clarified because the thinning and felling will start soon and the benefits are likely to be more significant. The Panchayat may be tempted to auction the standing crops wholesale to get the maximum return and to increase the Panchayat funds with little or no benefit to the weaker sections. The whole matter of distribution/disposal of timber products from Panchayat blocks needs to be studied and the procedures properly defined and streamlined.

8.4.4 There is no doubt about the multiplier effects of the block and private plantations carried out during the project period. There has been a tremendous response in Western Maharashtra followed by Marathwada and Vidarbha. Even in the latter two regions, evidence is plentiful that the momentum is picking up, possibly helped by the rising costs of inputs for agriculture. The basic point is that the villager has learned that tree growing is profitable in marginal and unproductive lands and that it also helps conserve the environment, an issue on which he is increasingly sensitized through the media.

8.5 Comparison of Actual Costs & Benefits with those estimated in the Project

8.5.1 It is not possible to compare the actual benefit/cost with those projected in the project paper because grass has been the only product from the community plantations. Even in the case of grass, only the sale price, not the quantity, is known. In the absence of these figures, the team could not make any comparisons.

8.5.2 Trees raised by farmers on their own lands during the project period have also, in the majority of cases, not been felled or sold yet. In some cases where they have been sold, only the amount of sale money is available, or in some cases, the number of trees as well, but neither the diameters nor the volumes.

8.6 Effectiveness of SFD Training, Research Extension and Monitoring.

8.6.1 A tremendous amount of awareness and tree consciousness has been raised among the villagers in the whole of Maharashtra State. A study conducted by IRDS has assessed that over 90 percent of the rural population has been sensitized to social forestry. The team concurs with this finding. It speaks volumes of the dedicated efforts which the SFD staff has made in taking the message of social forestry over such a wide area within a period of a little under ten years. Of course there have been deficiencies and weakness, but given the background of SFD staff and their lack of exposure to extension methods at the start of the project, this achievement is highly creditable.

8.6.2 In some cases the expectations of the project have been a little too optimistic, particularly the expectation that in three years the Panchayat would be trained in the cultivation and management of plantations "to become (a) highly motivated and technically competent forest resources management group." Because Panchayats are elected political bodies at the village level, the members have a high political stake in activities that have a highly visible return. Plantations which are likely to yield sizeable benefits only after 8 to 10 years are naturally at a low priority. Even in Western Maharashtra where social forestry has made the greatest impact, Panchayats can still not be termed as a "technically competent forest resources management group". The weakness of the Panchayats has caused problems. First, the transfer of the block plantations to Panchayats abruptly severed links between the village and SFD staff. Secondly, the Panchayat, apart from affording protection through a watchman, is technically untrained and therefore dependent on the already burdened SFD staff.

8.6.3 The Panchayat should create a forest subcommittee or subgroup similar to subcommittees existing for other activities. The subcommittees should have a member from the Panchayat, a teacher from the local educational institution, a member of Mahila Mandal or another womens' organization, voluntary group or youth clubs. This subcommittee should be trained in basic forest management practices and entrusted with the management of the community block. This group could also help the private farmers with plantations. It needs to be formed immediately to promote and protect the plantations on a continuous and long-term sustainable basis.

8.6.4 There has been a tremendous change in the attitude of SFD staff who appreciate and better understand rural development mechanics and rural social structure as a result of their exposure to training courses through institutes like Tata Institute of Social Sciences and Jamna Lal Bajaj Institute of Management.

8.6.5 Women should be more involved as members of SFD staff. Enquiries revealed that efforts were made, but few women were prepared to join the SFD. The efforts should continue as the team feels that women staff members could be far more effective in motivating village women to install improved smokeless or biogas stoves, and stall feed of cattle. Women Village Forest Workers (APOs) have done excellent work in Orissa.

8.6.6 Another weakness noticed by the team and even articulated by the field staff was the lack of transportation for APOs. The efficiency of an APO can improve dramatically if he is provided with a moped, (Their counterparts in Orissa have been provided with a moped by the SFD). The team recommends that they be provided transport to facilitate contact with the project villages where expectations and interest have been raised. Frustration should not be allowed to grow because of lack of support in this critical phase.

8.6.7 Monitoring & Evaluation: The SFD has two computers which have recently been made operational. A computer consultant has been working to train the M&E unit staff in the use of computers for the last several months. However, proper data for the computers is not being generated, and these machines are not used for monitoring and evaluation. The M&E staff has been used to compile a large volume of data needed for filling in a large number of regular reports which the state bureaucracy demands. Much of this information is useless for the computers. The computer consultant is endeavouring to sensitize the SFD staff to the ability of computers to generate data for any report in seconds if a sound data base has been created.

8.6.8 Research: Research is a very wide topic. It would only be fair to state that not much could be expected of the SFD staff which has had its hands full with field activities much beyond the project targets because they had to handle the budgets available under various employment generation and rural development schemes. A forest consultant is compiling a detailed report on research needs of social forestry that should be available to SFD staff shortly. Consequently, the team is not making any suggestions in this area.

## 8.7 Principal Recommendation

8.7.1 On the basis of findings summarized above, the following key recommendations need to be implemented to strengthen and sustain the social forestry program:

- SFD should adjust its seedling prices to market levels to avoid undercutting private growers.
- Subsidies to private nurseries should be withdrawn gradually over several years rather than discontinued abruptly as planned.
- SFD should continue some extension activities with the communities even after the community is managing the plantation;
- A village subcommittee should be formed and its members properly trained by the SFD to manage the community's plantation.
- More women should be involved in all phases of the social forestry effort including the SFD.
- Staff for monitoring and evaluation should be strengthened and augmented with field investigators to track plantation yields and market trends. Software, hardware, and trained personnel are needed to implement effective monitoring efforts.

# APPENDICES

List of villages visited by the Team

| Name of Village                   | Name of Tehsil year with area in ha. | SFD Planting other schemes with area in ha. | Planting under over to Panchayat                                       | Whether handed kept | Whether watchman |
|-----------------------------------|--------------------------------------|---|--|---------------------|------------------|
| 2                                 | 3                                    | 4   | 5  | 6                   | 7                |
| <b>A <u>DISTRICT KOLHAPUR</u></b> |                                      |   |  |                     |                  |
| Minche                            | Hathkanangal                         | 1987(10)                                    | -  | Yes                 | Yes              |
| Kapurwade                         | "                                    | -   | Fruit Planting Scheme 1990(12)   | -                   | Yes              |
| Narande                           | "                                    | 1987(12)                                    | -<br>Plantation by Panchayat 1990 (4)<br>Jawahar Rozgar Yojna 1989(10) | Yes                 | Yes              |
| Rurki                             | "                                    | 1985(8)                                     | -  | Yes                 | -                |
| Sirsinghe Azra                    | -                                    | 1987 (10)                                   | -  | Yes                 | Yes              |
| Azra                              | "                                    | 1987(20)                                    | -  | Yes                 | Yes              |
| "                                 | "                                    | "   | 1962 (20)  | Yes                 | -                |
| Sangoan                           | Kagal                                | -   | -  | -                   | -                |
| Vasi                              | Karvir                               | -   | Fuelwood Scheme 1987(3)  | Yes                 | -                |
| Hirwade                           | "                                    | 1987(4)                                     | Planting of coconut along boundary (1990)                              | Yes                 | Yes              |
| Hosur                             | Karvir                               | -   | Non-project Village Panchayat Planting 1989 (21/2)                     | -                   | -                |

List of villages visited by the Team

| Name of Village                                 | Name of Tehsil year with area in ha. | SFD Planting other Schemes with area in ha. | Planting under over to Panchayat                     | Whether handed kept | Whether watchman |
|---|--------------------------------------|---|--|---------------------|------------------|
| 2   | 3                                    | 4   | 5  | 6                   | 7                |
| <b>B. DISTRICT SANGLI</b>                       |                                      |   |  |                     |                  |
| Khanderajuri                                    | Miraj                                | 1986(6)                                     | -<br>Private<br>Planting (26)                        | Yes                 | Yes              |
| New English<br>Khanderao<br>Secondary<br>School | Miraj                                | -   | 1,000 planted<br>by school<br>children               | -                   | - ?              |
| Arenduly  | "                                    | 1987(5)                                     | Panchayat not prepared<br>to take over               |                     |                  |
| Budhgaon  | "                                    | non-project<br>village                      |  |                     |                  |
|   | "                                    | Pawate<br>planting<br>1986(2)               |  |                     |                  |
| Kawalapur                                       | "                                    | 1984(11)                                    | Jawahar<br>Rozgar<br>Yojna<br>1989(3),<br>1990(12/2) |                     |                  |
| Nerle   | Watava                               | 1986(4)                                     | -  | Yes                 | -                |
| Kase  | "                                    | non-project<br>village                      | -  | -                   |                  |
| <b>C. DISTRICT SATARA</b>                       |                                      |   |  |                     |                  |
| Arewari   | Vai                                  | 1984(b)                                     | -  | Yes                 | No               |
| Kemeri  | Satara                               | -   | Pawate<br>Planting<br>1985-86(55)                    | -                   | -                |

List of villages visited by the Team

| No                            | Name of Village | Name of Tehsil year with area in ha. | SFD Planting other Schemes with area in ha.   | Planting under over to Panchayat | Whether handed kept | Whether watchman |
|-------------------------------|-----------------|--------------------------------------|---|----------------------------------|---------------------|------------------|
| 2                             | 3               | 4                                    | 5   | 6                                | 7                   |                  |
| <b>B. DISTRICT AURANGABAD</b> |                 |                                      |   |                                  |                     |                  |
| Kanori                        | Aurangabad      | 1984(5)                              | REEGP 1988(10)<br>NREP 1988 (20)<br>Integrated Rural<br>Energy Dev. Prog.<br>1989(22) | Yes                              | Yes                 |                  |
| Shahzadpur                    | "               | 1983(7)                              | RLEGP (4)   | Yes                              | Yes                 |                  |
| Pimpalgaon                    | Gangapur        | 1985(8)                              | -<br>1988(10) RLEGP<br>1989(12) RLEGP   | Yes<br>No<br>No                  | Yes<br>Yes          |                  |
| Kasabkhera                    | "               | -                                    | Non project<br>village  | -                                | -                   |                  |
| Garej                         | Warjapur        | 1984(5)                              | Fruit<br>planting<br>scheme 10 ha.  | -                                | -                   |                  |
| Pangavan                      | Waijapur        | 1984(8)                              | Plantation<br>completed NREP<br>1989 NREP (12)  |                                  |                     |                  |
| Bhingi                        | Waijapur        | -                                    | 1989(10)  | -                                | -                   |                  |
| Chanwagalgaon                 | "               | 1986(5)                              | -   | Yes                              | Yes                 |                  |
| Dhoregaon                     | Gangapur        | 1983(5)                              | -   | Yes                              | No                  |                  |
| Mirzapur                      | Gangapur        | 1986(10)                             | -   | Yes                              | Yes                 |                  |
| Pangra                        | Paithan         | 1984(8)                              | -   | Yes                              | Yes                 |                  |
| Bhokangaon                    | Kannar          | 1986(8)                              | -   | Yes                              | Yes                 |                  |
| Bargaon                       | Kannar          | -                                    | non-project<br>village  |                                  |                     |                  |

Appendix I (Contd)

List of villages visited by the Team

| o | Name of Village | Name of Tehsil year with area in ha. | SFD Planting other Schemes with area in ha. | Planting under over to Panchayat              | Whether handed kept  | Whether watchman |
|---|-----------------|--------------------------------------|---|---|----------------------|------------------|
|   | 2               | 3                                    | 4   | 5   | 6                    | 7                |
|   | Talwadi         | Kannar                               | 1986(12)                                    | RLEGP 1986(12)<br>NREP 1986 (10)<br>1989 (16) | Yes<br>Yes<br>Yes    | Yes              |
|   | Shafipur        | "                                    | under state level plan                      |   | -                    | Yes              |
|   | Adgaon          | "                                    | 1984(8)                                     | "   | Yes                  | No               |
|   | Dingargaon      | "                                    | 1983(5)                                     | "   | Yes                  | No               |
|   | Mohara          | "                                    | 1986(10)                                    | NREP 1986(16)                                 | Yes                  | Yes              |
|   | Pimpri Panas    | Seller                               | 1986(8)                                     | -   | Yes                  | No               |
|   | Undagaon        | "                                    | 1986(10)                                    | -   | Yes                  | Yes              |
|   | Letiakhedi      | "                                    | Non-project village (Kisan nursery)         |   |                      |                  |
|   | Bhandegaon      | Khultabad                            | 1984(7)                                     | -   | Yes                  | No               |
|   | Gadema          | "                                    | 1985(7)                                     | -   | Yes                  | No               |
|   | Kingaon         | "                                    | non-project village (Kisan nursery)         |   |                      |                  |
|   | Adgaon          | Aurangabad                           | 50  | -   | Yes                  | -                |
|   | Gadana          | "                                    | 1986(7)                                     | -   | Yes<br>Kisan nursery | Yes              |
|   | Kasab Khera     | Seller                               | non-project village (Kisan nursery)         |   |                      |                  |

E. BULDHANA

|             |               |         |               |  |     |     |
|-------------|---------------|---------|---------------|--|-----|-----|
| Nimkhedi    | Deolgaon Raja | -       | private 14 ha |  |     |     |
| Digras Bike | "             | 1984(7) | -             |  | Yes | Yes |

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Appendix I (Contd)

List of villages visited by the Team

| Name of Village          | Name of Tehsil year with area in ha. | SFD Planting other Schemes with area in ha.                             | Planting under over to Panchayat   | Whether handed kept | Whether watchman |
|--------------------------|--------------------------------------|---|------------------------------------|---------------------|------------------|
| 2                        | 3                                    | 4   | 5                                  | 6                   | 7                |
| <u>F. DISTRICT ALOKA</u> |                                      |   |                                    |                     |                  |
| Ambhura                  | Murtizapur                           | -   | Kisan nursery                      |                     |                  |
| Hathagaon                | "                                    | -   | Kisan nursery                      |                     |                  |
| Dhatunda                 | "                                    | 1986(6.5)   | Yes                                | No                  |                  |
| Lassapur                 | "                                    | -   | Private plantation 5 ha.           |                     |                  |
| Veeralut                 | "                                    | 1987(8.5)   | -                                  | Yes                 | No               |
| Bhingī Mahal             | Barshikakh                           | 1987(9)   | -                                  | Yes                 | No               |
| Mahangaon                | "                                    | 1985(10)  | -                                  | Yes                 | Yes              |
| Medashi                  | Malegaon                             | 1986(8)<br>1987(5)<br>1984(5)   | -                                  | Yes                 | Yes              |
| Irla                     | "                                    | 1989(8)   | planting by farmers along the nala |                     |                  |
| Ekanumba                 | "                                    | 1986(5)   | RLEGP(4)                           | Yes                 | Yes              |
| Shirpur Jain             | Malegaon                             | 1984(8 1/2)   |                                    | Yes                 | Yes              |
| Pardi                    | "                                    | Plantation under Soil Conservation Scheme of 3 ha of three farmers 1989 |                                    |                     |                  |
| Mahgohan                 | Mangrulpir                           | 1986(9.5)   | -                                  | Yes                 | No               |
| Unri                     | "                                    | -   | -                                  | -                   | Yes              |
| Rohana                   | Manora                               | 1985(3)   | -                                  | Yes                 | No               |
| Kandoli                  | "                                    | 1984(2.5)   | -                                  | Yes                 | No               |

## Appendix II

### List of Farmers and others interviews by the Team

1. Shivaji Rao Patil - Chairman, Distt. Farmers Tree Planting and Protection Cooperative Village Vasi, Kolhapur; 400 members
2. Shankar Kundli Dalvi - Sarpanch, Arenduly Gram Panchayat Sangli district
3. Babu Rao Patil, Apa Patil and Vithal Rao Patil - Farmers of village Khanderajuri Tehsil Miraj, Sangli district
4. Man Singh Rao J. Jadhav - Managing Director, Vasant Dada Shetkari Shakar Karkhana, Sangli
5. Ram Singh Patil, Sadashiv Patil and Pandurang More - Office-bearers of Vriksha Premi Sanstha, Sangaon village, Tehsil Kagal, Kolhapur
6. Kashinath Vahanappa Charati - Sarpanch, Azra Gram Panchayat and Chairman Azra Urban Coop. Bank Ltd. Azra, Kolhapur
7. Mr. Dhuma1 - Agriculture Supervisor, M.R. Multipurpose High School, Gadhingle Kolhapur
8. Subhas Ganpat Rao Desai - Student 12th class, raised a nursery on his own by collecting seed, and raised 40,000 seedlings
9. Anna Sahib Dhondiba Patil Rang Rao Bhosale, and Sita Ram Bhandari - Sarpanch, Narande Panchayat and farmers of Narande village, Kolhapur
10. Mohd. Hasan Momin - Sarpanch, Minche Gram Panchayat Tehsil Hathkkanangle, Kolhapur
11. Gobind Rao Krishna Patil - Sarpanch Kapurwade Gram Panchayat Kolhapur
12. Bandu Anand Rao - Sarpanch, Arewari Gram Panchayat Satara
13. Sajjan Rao - Sarpanch, Kemeri Gram Panchayat Vanshri Award Winner
14. Madhav Rao Bhou Mulley - Landless labour, Kase village kolhapur
15. Head Master - New English Khande Rao High School, Khanderajuri, Tehsil, Miraj, Sangli district

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Appendix II (Continued)

List of Farmers and others interviews by the Team

16. Maruti Lakshman Pharate - Farmer, Village Hirwade Tehsil Karvir, Kolhapur
17. Shivaji Rao Patil - Buldozer owner, village Hosur, Kolhapur
18. Dayanand Kamla S/C - Village Hosur, Kolhapur
19. Manoj Kumar Dinkar Patil - Educated farmer, Village Nerle, Tehsil Watava, Sangli district
20. Ram Chandra Sakharam Jamli - Farmer, Nerle village, Sangli distt.
21. Sahib Rao Bhaurau Patil - Sarpanch, village Karori, Aurangabad distt.
22. Shes Ram Jadhav - Farmer, village Karori, Aurangabad distt.
23. Radha Krishna Shayam Rao - Teacher, Zila Parishad School, village Pimplgaon, Aurangabad
24. Narain Pandu Soravar - Sarpanch village Garej, Tehsil Vijapur, Aurangabad
25. Kastebai Yeduba Sarowar - Kisan nursery operation, village Garej Aurangabad
26. Bhau Sahib Gaival - Sarpanch, village Pangavan, Tehsil Vaijapur, Aurangabad
27. Lakshman Rao Bhise - Promoter of India Van Utpadak Sangh Coop. Society Bhise, Aurangabad
28. R.M. Gharvat - Sarpanch, village Pangra, Tehsil Paithan, Aurangabad
29. Karbhari Ekanath Khare - Sarpanch, village Bhoangaon, Tehsil Kannar, Aurangabad
30. Vasant Kachru - Progressive farmer Aurangabad

Appendix II (Continued)

List of Farmers and others interviews by the Team

31. B.T. Jadhav - Sarpanch, village Bahingaon, Tehsil Kannar, Aurangabad
32. Uttam Rao Rathore - Sarpanch, village Telnadi, Tehsil Kannar, Aurangabad
33. Gokul Dada Patel - Sarpanch, village Pishore, Tehsil Kannar, Aurangabad
34. H.K. Bhonsale - Sarpanch, village Adgaon, Tehsil Kannar, Aurangabad
35. Pandurang Dagroo Jangley - Sarpanch, village Disgangaon Tehsil Kannar, Aurangabad
36. Pundarik Barepatil Gonade - Sarpanch, village Mohara, Tehsil Kannar, Aurangabad
37. Mukundrao Sampatrao Medshikar - Sarpanch, village Medshi Taluka Malegaon, Akola
38. Nilkanth Rao - Farmer
39. Ashoka Bhivasai Thakre - Sarpanch, village Irla Tehsil Malegaon, Akola
40. Head Master - Zila Parishad Prathmik School, Irla, Akola
41. Kisan Rao Kundlik Rao Gowde - Farmer, village Ekamba, Tehsil Malegaon, Akola
42. Gajanan Onkar Thakre - Farmer, village Ekamba, Tehsil Malegaon, Akola
43. Sakharam Jadav - Teacher, Secondary School, Hisai, Tehsil Malegaon, Akola
44. Devraj Kharade - Sarpanch, village Rohana, Tehsil Mangrulpur, Akola (Adivasi village)
45. Mr. Shinde - Sarpanch, Arewar Village, Satara district

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List of Farmers and others interviews by the Team

- |                              |  |
|------------------------------|--|
| 46. Mr. Sajjan Rao           | - Motivator and farmer of Kemeru village, Satara district          |
| 47. Mrs. Manorama Bai        | - Kisan nursery beneficiary of Narande village, Kolhapur           |
| 48. Mrs. Nandevkar           | - Kisan nursery beneficiary, Narande village, Kolhapur             |
| 49. Mrs. Zaitoon Bai         | - Kisan nursery beneficiary of village Rudki, Kolhapur             |
| 50. Mr. & Mrs. Mandevkar     | - Kisan nursery beneficiary of village Azra, Kolhapur              |
| 51. Vimal Mullay             | - Kisan nursery beneficiary of village Angnar, Kolhapur            |
| 52. Maruti Saran Pawar       | - Kisan nursery beneficiary Kichhasuda, Kolhapur                   |
| 53. Mrs. Savitri Bai Kharve  | - Kisan nursery beneficiary of village Khanderajuri, Sangli        |
| 54. Mrs. Shahida             | - A villager of Nerle, Sangli                                      |
| 55. Kishanrao Pankar         | - Sarpanch of village Panas, Sellar, Undangaon village, Aurangabad |
| 56. Panchayat Secretary      | - Undangaon village, Aurangabad                                    |
| 57. Modh. Ghaus              | - Panchayat member, Undangaon                                      |
| 58. Karupa Bhangi Langa      | - Dy. Sarpanch, Undangaon, Aurangabad                              |
| 59. Members of Mahila Mandal | - Undangaon village, Aurangabad                                    |
| 60. Sarpanch                 | - Nimkhed village, Buldhana  |

List of Farmers and others interviews by the Team

- |                                 |   |
|---------------------------------|---|
| 61. Mrs. Nanda Bai              | - Kisan nursery beneficiary, Nimkhed, Buldan          |
| 62. Mr. Shiv Rao Patwardhan     | - Leprosy Mission Secretary Ambhure village, Buldhana |
| 63. Mrs. Vasudha Deshmukh       | - M.L.C. Ambhure village, Buldhana                    |
| 64. Sanjay Rathor               | - Farmer, Dhatunda village Buldhana                   |
| 65. Group of village Youth      | - Village Verahit, Buldhana                           |
| 66. Headmaster                  | - School, Veerahit, Buldhana                          |
| 67. Hindi Teacher               | - Verahit village school, Buldhana                    |
| 68. Group of landless villagers | - Village Bhindimahal, Akola                          |
| 69. Gulabrao Jamkar             | - Sarpanch, village Mehana Akola                      |

Appendix - III

Number of villages taken up for Community Block

Planting under the SFD Project

| Sr. No. | District   | Total no of villages | Number of of panchayat | Number taken up for community land planting by SFD | Total area planted (ha) |
|---------|------------|----------------------|------------------------|--|-------------------------|
| 1       | 2          | 3                    | 4                      | 5  | 6                       |
| 1.      | Kolhapur   | 1208                 | -                      | 260  | 1,576                   |
| 2.      | Aurangabad | 1324                 | 764                    | 328  | 3,325                   |
| 3.      | Akola      | 1310                 | 967                    | 190  | 3,005                   |

Appendix IV

Community Land Planted Under Various other Schemes

| Sr. No. | Name of District | Name of Scheme and area planted (ha) |      |      |      |     |        |      |
|---------|------------------|--------------------------------------|------|------|------|-----|--------|------|
|         |                  | RLEGP                                | NREP | IREP | DPAP | E.S | MANOLI | RFWP |
| 1.      | Kolhapur         | 921                                  | 354  | -    | -    | 296 | -      | 775  |
| 2.      | Aurangabad       | 1973                                 | 1132 | 106  | 200  | 32  | -      | -    |
| 3.      | Akola            | 2711                                 | 1385 | -    | -    | -   | 870    | -    |

Appendix V

Statement showing number of Voluntary Organizations engaged in planting

| Sr. No. | District   | Number of Voluntary Organizations | Number of seedlings planted (lakhs) |
|---------|------------|-----------------------------------|-------------------------------------|
| 1.      | Kolhapur   | 27                                | 41.42                               |
| 2.      | Aurangabad | 12                                | 15.25                               |
| 3.      | Akola      | 11                                | 11.75                               |

Appendix VI

Statement showing number of Villages where Community Block Planting carried out by Panchayats

| Sr. No. | Number of District | Number of Villages where community land planted by Panchayat | Seedling planted (thousand) |
|---------|--------------------|--|-----------------------------|
| 1.      | Kolhapur           | 136  | --                          |
| 2.      | Aurangabad         | 31   | 62.0                        |
| 3.      | Akola              | 1  | 3.0                         |

Appendix - VII

Number of SFD Nurseries and Seedlings produced

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| Serial<br>Number | Year | Number of nurseries | Number of seedlings<br>(lakhs) |
|------------------|------|---------------------|--------------------------------|
|------------------|------|---------------------|--------------------------------|

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1. KOLHAPUR DISTRICT

|    |         |     |       |
|----|---------|-----|-------|
| 1. | 1983-84 | --  | --    |
| 2. | 1984-85 | --  | --    |
| 3. | 1985-86 | 57  | 22.88 |
| 4. | 1986-87 | 139 | 37.48 |
| 5. | 1987-88 | 126 | 26.36 |
| 6. | 1988-89 | 104 | 25.64 |
| 7. | 1989-90 | 26  | 8.99  |

2. AURANGABAD DISTRICT

|    |         |    |       |
|----|---------|----|-------|
| 1. | 1983-84 | -- | --    |
| 2. | 1984-85 | 41 | 9.47  |
| 3. | 1985-86 | 14 | 12.50 |
| 4. | 1986-87 | 11 | 12.50 |
| 5. | 1987-88 | 30 | 39.88 |
| 6. | 1988-89 | 23 | 40.42 |
| 7. | 1989-90 | 17 | 24.16 |

3. AKOLA DISTRICT

|    |         |    |       |
|----|---------|----|-------|
| 1. | 1983-84 | -- | --    |
| 2. | 1984-85 | 30 | 12.84 |
| 3. | 1985-86 | 33 | 13.62 |
| 4. | 1986-87 | 38 | 17.27 |
| 5. | 1987-88 | 35 | 14.62 |
| 6. | 1988-89 | 25 | 7.32  |
| 7. | 1989-90 | 17 | 3.35  |

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Appendix - VIII

Number of Kisan Nurseries and Seedling Production

| Serial Number                 | Year    | Number of nurseries | Number of seedlings (lakhs) |
|-------------------------------|---------|---------------------|-----------------------------|
| <u>1. KOLHAPUR DISTRICT</u>   |         |                     |                             |
| 1.                            | 1983-84 | --                  | --                          |
| 2.                            | 1984-85 | --                  | --                          |
| 3.                            | 1985-86 | --                  | --                          |
| 4.                            | 1986-87 | 104                 | 10.00                       |
| 5.                            | 1987-88 | 176                 | 15.24                       |
| 6.                            | 1988-89 | 258                 | 24.99                       |
| 7.                            | 1989-90 | 323                 | 23.97                       |
| <u>2. AURANGABAD DISTRICT</u> |         |                     |                             |
| 1.                            | 1983-84 | --                  | --                          |
| 2.                            | 1984-85 | --                  | --                          |
| 3.                            | 1985-86 | --                  | --                          |
| 4.                            | 1986-87 | 54                  | 7.65                        |
| 5.                            | 1987-88 | 24                  | 1.20                        |
| 6.                            | 1988-89 | 57                  | 12.48                       |
| 7.                            | 1989-90 | 97                  | 18.81                       |
| <u>3. AKOLA DISTRICT</u>      |         |                     |                             |
| 1.                            | 1983-84 | --                  | --                          |
| 2.                            | 1984-85 | --                  | --                          |
| 3.                            | 1985-86 | --                  | --                          |
| 4.                            | 1986-87 | 138                 | 17.51                       |
| 5.                            | 1987-88 | 202                 | 21.92                       |
| 6.                            | 1988-89 | 174                 | 20.50                       |
| 7.                            | 1989-90 | 210                 | 23.04                       |

Appendix - IX

Number of Seedlings Distributed to farmers (lakhs)

| Sr. No. | Name of Deptt./ Agencies | Years |       |       |       |       |
|---------|--------------------------|-------|-------|-------|-------|-------|
|         |                          | 86-87 | 87-88 | 88-89 | 89-90 | 90-91 |
| 1       | 2                        | 3     | 4     | 5     | 6     | 7     |

A. KOLHAPUR DISTRICT

|       |  |       |       |       |       |        |
|-------|--|-------|-------|-------|-------|--------|
| 1.    | Social Forestry                                    | 16.11 | 24.81 | 9.60  | 8.45  | --     |
| 2.    | Kisan Nursery                                      | --    | 10.00 | 15.24 | 24.99 | 23.97  |
| 3.    | Sugar Factories                                    | 0.45  | 1.82  | 3.49  | 6.06  | 4.71   |
| 4.    | Co-operative Spinning Mills                        | --    | --    | --    | --    | 3.28   |
| 5.    | Shetkari Sahakari Vroksha Lagwad Sanstha, Kolhapur | --    | --    | 1.50  | 6.00  | 3.00   |
| 6.    | Horticulture Deptt.                                | --    | --    | --    | --    | 1.24   |
| 7.    | Forest Deptt.                                      | --    | --    | --    | --    | 25.51  |
| 8.    | Seva Society Sangh                                 | --    | --    | --    | --    | 6.99   |
| 9.    | School Community                                   | --    | --    | --    | --    | 34.12  |
| Total |  | 16.56 | 36.63 | 29.83 | 45.50 | 102.82 |

B. AURANGABAD DISTRICT

|       |               |      |       |      |       |       |
|-------|---------------|------|-------|------|-------|-------|
| 1.    | Kisan Nursery | --   | 1.23  | 0.79 | 7.78  | 15.07 |
| 2.    | S. F. D.      | 7.52 | 17.00 | 7.35 | 7.75  | 3.31  |
| Total |               | 7.52 | 18.23 | 8.14 | 15.53 | 18.38 |

C. AKOLA DISTRICT

|       |                            |      |       |       |       |       |
|-------|----------------------------|------|-------|-------|-------|-------|
| 1.    | S.F.D. Nurseries           | 6.70 | 1.46  | 1.93  | 1.24  | 1.05  |
| 2.    | Kissan Nurseries           | --   | 14.93 | 9.90  | 17.85 | 16.06 |
| 3.    | Forest Deptt.              | 1.00 | 1.01  | --    | --    | --    |
| 4.    | Soil Conservation Deptt.   | 0.62 | 1.22  | 2.24  | 0.52  | 0.66  |
| 5.    | Panjabrao Krishi Vidyapith | --   | 0.12  | 0.30  | 0.51  | 0.65  |
| 6.    | Private Nurseries          | --   | 0.25  | 0.18  | 0.27  | 0.26  |
| Total |                            | 8.32 | 19.09 | 14.55 | 20.39 | 18.68 |

Appendix - X

Private Planting in Kolhapur District (1985-86 - 1989-91)

| Sr. No. | Tahsil        | No. of ha. | No. of farms |
|---------|---------------|------------|--------------|
| 1       | 2             | 3          | 4            |
| 1.      | Karveer       | 320        | 40           |
| 2.      | Kagal         | 160        | 15           |
| 3.      | Gadhchiroli   | 8          | 63           |
| 4.      | Gargoti       | 21         | 46           |
| 5.      | Hatkanangle   | 121        | 34           |
| 6.      | Radhanagari   | 42         | 9            |
| 7.      | Chandgad      | 251        | 14           |
| 8.      | Shiroi        | 40         | 32           |
| 9.      | Malakapur     | 159        | 55           |
| 10.     | Ganganbarsada | 6          | 1            |
|         | Total         | 1,128      | 309          |

Appendix - XI

Statement Showing the distribution of seedlings from the nurseries run by Vasant Dada Shetkari Sahkar Karkhana Ltd. Sangli

| Sr. No. | Seedling Species      | Seedlings supplied (thousand) |         |         |         |
|---------|-----------------------|-------------------------------|---------|---------|---------|
|         |                       | 1986-87                       | 1987-88 | 1988-89 | 1989-90 |
| 1.      | Eucalyptus            | 60.0                          | 678     | 450     | 300     |
| 2.      | Teak                  | --                            | 5       | 100     | 80      |
| 3.      | Cassia                | 1.9                           | 5.0     | --      | --      |
| 4.      | Albizzia lebbek       | 0.1                           | 2.0     | --      | --      |
| 5.      | Polyalthia Longifolia | --                            | 24.0    | 4.0     | --      |
| 6.      | Gold Mohar            | 1.9                           | 0.8     | --      | --      |
| 7.      | Bor                   | --                            | 25.0    | 25.0    | 9.0     |
| 8.      | Ferronia lemonia      | --                            | 250.0   | --      | --      |
| 9.      | Mango                 | 0.5                           | 3.73    | 5.0     | 4.0     |
| 10.     | Tamarind              | 1.5                           | 1.0     | 2.0     | 1.0     |
| 11.     | Coconut               | 6.98                          | 6.41    | 6.3     | 58.0    |
| 12.     | Bamboo                | 0.03                          | 0.02    | 0.09    | 0.05    |
| 13.     | Pomegranate           | --                            | 4.0     | 1.0     | 1.0     |

Appendix - XII

CRITERIA FIXED FOR SELECTING BENEFICIARIES UNDER THE SCHEME OF  
KISAN NURSERIES AND SALE PRICE OF SEEDLINGS AS PER GOVERNMENT  
RESOLUTION OF HORTICULTURE AND SOCIAL FORESTRY DEPARTMENT'S  
No. SLF/1886/CR-1175/Desk-32, DATED 09-10-1986.

- No. 1: Beneficiaries should be from small and marginal farmers and from persons below poverty line.
- No. 2: Beneficiaries should be selected in consultation with local Block Development Officer.
- No. 3: He should be person working at village level and should preferably be from the same village.
- No. 4: Priority should be given for selecting the beneficiaries from young persons and women.
- No. 5: In initial year 10 beneficiaries should be selected from each taluka of the district.
- No. 6: Amongst these 10, 5 beneficiaries should be from SC/ ST community and 2 should be from women folks.
- No. 7: The list of beneficiaries should be prepared and be made final after sanction from Joint Director, Social Forestry of the respective circles.
- No. 8: Finalisation of the list of Kisan Nurseries and beneficiaries should be made before 15th of October every year.
- No. 9: The price of seedlings kept in polythene bags will not exceed 45 paise.
- No. 10: The beneficiary will sell the seedling directly. Unsold seedlings will be purchased by SFD at 25 paise each.
- No. 11: For the scheme of Kisan Nurseries free distribution of seedlings will not be permitted under any Government scheme.

APPENDIX - XIII

Distribution of produce from the Block Plantations  
undertaken under the Social Forestry Project

Govt. of Maharashtra H & F Deptt. Resolution No  
SFP 1085/CR 160/D- 31 dated 17.9.1985

The question regarding laying down procedure of disposal of the forest produce and sharing of the produce from block plantations undertaken under the Maharashtra Social Forestry Project was under consideration of the Government. Pending finalization of the State Governments proposal by the USAID. Government is pleased to direct that the sharing of income between village Panchayat and Government and distribution of produce like grass and twigs of Subabul etc. between the weaker sections of the Society and others, in the village, where plantation has been undertaken under the Maharashtra Social Forestry Project, should be as under :-

- a) Share of income between village panchayat and State Government should be 90% and 10% respectively so as to maintain a liaison between Govt. and village panchayat for the successful implementation of the project and in order to keep continuity of Social Forestry activity taken up by the village panchayat after gestation period. At least 25% of the income allocated to a village panchayat be utilised by it for watch-and -ward and proper maintenance and reply cement and up keep of community plantation.

- b) 50% of the total produce be reserved and sold to the weaker sections (landless labourers and persons below poverty line) of the village proper at a 50% of the market rate, and rest of the produce be sold by public auction to people belonging to the same village. The market rate will be obtained from the District Marketing Committee of the respective district.

A methodical assessment should be made of the fuel wood and fodder requirements of landless labourers and the persons below the poverty line and where a supply falls short of the requirements, the distribution should be on a pro-rate basis.

2. These orders should take effect from the year 1983, first planting season under the project. The Revenue realised from forest produce should be credited to the budget heads "113-Forest- (g) Other Receipts - (xi) Recoveries from Village Panchayats from Community Plantations".
3. This Resolution issued in consultation with the finance Department vide Finance Department u.o.r. No.CR 736/EXP-10 dated the 21st July, 1984.

Statement Showing Physical Targets  
as Provided in the Project (Whole State)

Table 1

| .F.T. | Villages Number | Block ha. | Private ha. | Watershed ha. | Strip ha. | SC/ST ha. | Total ha. |
|-------|-----------------|-----------|-------------|---------------|-----------|-----------|-----------|
| 83-84 | 540             | 2355      | 2355        | 40            | 200       | 50        | 5000      |
| 84-85 | 810             | 5730      | 5730        | 90            | 500       | 350       | 12400     |
| 85-86 | 810             | 6950      | 11950       | 110           | 590       | 400       | 20000     |
| 86-87 | 1080            | 8400      | 12400       | 100           | 700       | 0         | 21600     |
| 87-88 | 1060            | 9800      | 10800       | 400           | 1000      | 0         | 2200      |

Statement Showing Physical Targets  
achieved in the Project (Whole State)

Table 2

| .F.T. | Villages Number | Block ha. | Private ha. | Watershed ha. | Strip ha. | SC/ST ha. | Total ha. |
|-------|-----------------|-----------|-------------|---------------|-----------|-----------|-----------|
| 83-84 | 540             | 2484.31   | 2516.86     | 107.17        | 461.10    | 26.17     | 5658.61   |
| 84-85 | 810             | 5402.22   | 5917.84     | 102.09        | 677.96    | 328.96    | 12428.70  |
| 85-86 | 810             | 6627.47   | 11942.47    | 64.00         | 561.42    | 428.00    | 19623.36  |
| 86-87 | 1080            | 8629.08   | 12277.91    | 36.50         | 645.45    | 0.00      | 21888.94  |
| 87-88 | 1049            | 8632.62   | 5947.68     | 37.06         | 1443.88   | 3.00      | 16064.24  |
| 88-89 | 11              | 62.00     | 0.00        | 0.00          | 0.00      | 0.00      | 62.00     |
| TOTAL | 4300            | 31837.70  | 38602.76    | 409.82        | 4089.44   | 786.13    | 75725.85  |

Statement Showing Non-Project Block Plantations

Table 3

| Year  | Community | Private | Total    |
|-------|-----------|---------|----------|
| 88-89 | 37,317    | 72,609  | 1,09,926 |
| 89-90 | 25,582    | 63,279  | 88,861   |

Appendix XV

Height & Growth of Plantations of Eucalyptus under  
Irrigated Conditions, Aurangabad District

| Name of the Farmer                                       | Area planted in ha.  | Year of planting | Total No. of plants | Distance bet. two plants | Date of measurement | Girth in cms. | Height metres (average) | Volume in CuM |
|--|----------------------|------------------|---------------------|--------------------------|---------------------|---------------|-------------------------|---------------|
| Sri Nana Jadhav<br>R/o Golwadi<br>Tq Aur'abad            | 1.5                  | 1984             | 14000               | 1x1 m                    | 9-3-90              | 41            | 16.00                   | 0.1680        |
| Sri Balasaheb<br>T. Jadhav<br>R/O Bahirgaon<br>Tq Kannad | Along Bunds of field | 1985             | 300                 | 2m                       | 7-3-90              | 41            | 16.00                   | 0.1680        |
| Sri K.M.Shirse<br>R/O Bahirgaon<br>Tq Kannad             | -do-                 | 1985             | 800                 | 1m                       | 6-3-90              | 43            | 15.40                   | 0.1770        |
| Dr.D.D.Shinde<br>R/o Dabhadi<br>Tq Kannad                | 0.6                  | 1985             | 3000                | 1.5x1.5m                 | 6-3-90              | 42            | 16.00                   | 0.1760        |
| Sri V.K.Jadhav<br>R/o Andharner<br>Tq Kannad             | 0.21                 | 1986             | 2100                | 1x1m                     | 7-3-90              | 42            | 12.40                   | 0.1360        |
| Sri M.M.Solunke<br>R/o Kannad<br>Tq Kannad               | Along Bunds          | 1986             | 400                 | 2m                       | 4-3-90              | 37            | 10.00                   | 0.0850        |
| Sri K.Jadhav<br>R/o Andahner<br>Tq Kannad                | 0.4                  | 1987             | 4000                | 1x1m                     | 5-3-90              | 36            | 9.50                    | 0.0769        |
| Sri Madhavrao<br>B.Kalatre<br>R/o Lehakhedi<br>Tq Sillod | Along Bunds          | 1987             | 500                 | 1m                       | 6-3-90              | 32            | 6.00                    | 0.0384        |

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Appendix XVI

Height & Growth of Plantations of Eucalyptus Hybrid under  
Rainfed Conditions, Aurangabad District

| Name of Farmer  | Area planted in ha. | Year of planting | Total No. of plants | Distance bet. two plants | Date of measurement | Girth in cms. | Height metres (average) | Volume in CuM |
|---|---------------------|------------------|---------------------|--------------------------|---------------------|---------------|-------------------------|---------------|
| Sri V.B.Patil<br>R/o Golegaon<br>Tq Saegaon               | 0.3                 | 1986             | 1,200               | 1x2.5m                   | 3-3-90              | 11            | 2.90                    | 0.0022        |
| Sri Ramdas<br>V. Patil<br>R/o Jarandi<br>Tq Soegaon       | Along Bunds         | 1986             | 2,500               | 1m                       | 3-3-90              | 13            | 3.10                    | 0.0032        |
| Sri M.S.Pakhre<br>R/O Mahalkinhola                        | 0.01                |                  | 50                  | 1mx1m                    | 7-3-90              | 19            | 6.00                    | 0.0135        |
| Dr.G.G.Agarwal<br>R/o Rail<br>Tq Kannad                   | 0.45                | 1986             | 4,500               | 1mx1m                    | 7-3-90              | 38            | 10.50                   | 0.0947        |
| Sri S.K.Bhandari  | 2.0                 | 1986             | 10,000              | 2mx1m                    | 8-3-90              | 40            | 7.00                    | 0.0700        |
| Sri R.S.Pawar<br>R/o Pimpriaja<br>Tq Aurangabad           | 0.6                 | 1987             | 6,000               | 1mx1m                    | 8-3-90              | 22            | 5.00                    | 0.0151        |
| Sri Devchand<br>Fursule<br>R/o Sharnapur<br>Tq Aurangabad | 1.50                | 1987             | 7,500               | 2mx1m                    | 9-3-90              | 13.5          | 3.60                    | 0.0041        |
| Sri V.G.Patekras<br>R/o Aurangabad                        | 0.75                | 1987             | 1,875               | 2mx2m                    | 9-3-90              | 12.00         | 3.50                    | 0.0031        |
| Bhamburda<br>Village                                      | 4.00                | 1985             | 6,400               | 2.5x2.5m                 | 4-3-90              | 34.00         | 5.70                    | 0.041         |

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## APPENDIX XVII

- A. List of studies and documents made available of the team.
1. Maharashtra Social Forestry Project Document.
  2. Maharashtra social forestry Mid-term Evaluation.
  3. A Study on Farmer Tree Planting.
  4. Role of Social forestry in Rural development. (draft)
  5. Panchayat Management of block Plantation (draft)
  6. Survey of Tree Planting done by Voluntary Agencies (draft)
  7. Role of women in Social Forestry.
- B. Discussion with Kirloskar consultants about their findings with regard to the following studies which are under finalization.
1. Survey of SC/ST planting
  2. Income generated and upliftment through Kisan nurseries.
  3. Role of Institutional Finance in social Forestry.
  4. Role of co-operatives in Social Forestry.
  5. Alternate sources of energy and fuel saving devices
  6. Availability of marketing avenue to Social Forestry products.

## APPENDIX XVIII

### Some Random Thoughts on Social forestry Programme

(Mr. SP Dixit, Deputy Director Akola)

- 1) For the first three years the protection of the plantations is done by the Department. The responsibility of protection, right from the first year may be entrusted to the Gram Panchayat. Amount payable to the watchman can be earmarked for Gram Panchayats.
- 2) For three years Department spends nearly Rs.. 14,500/- per mantation? The whole amount may be deposited in the rural bank and the Gram Panchayat may be asked to utilise interest accrued on the amount for the protection of the plantation.
- 3) Gram Panchayats doing good work in Social forestry may be given preference while distributing Jawahar Yohana etc. i.e. Funds for the other development activities may be linked with good work done in Social forestry.
- 4) The extent of the Social forestry Plantation in a village is quite micor scopic. It is next to impossible to meet the macro demands of fuel and fodder.
- 5) The idea of creating forest Sub-Committees in Gram Panchayat may be explored

- 6) After a year or so the Deptt. may not get community land for plantation. But there is vast scope for undertaking plantations along road sides, canal banks, railway lines etc.
- 7) Funds for publicity, advertisement are extremely inadequate. The success depends upon the extent of advertisement blitz and other publicity approaches. For this help of the professional advt. agencies may be sought.
- 8) The number of villages in Akola district is 1775 while the number of Asstt. Plantation Officers are 20 i.e. one A.P.O. will have to render services for 88 villages. At the most he can visit 20 villages in a month. It means the strength of A.P.O. should be quadrupled.
- 9) Like land, jewellery gold etc. a full grown tree should be considered as a good co-lateral for drawing loan from the bank.
- 10) Research and Education Wings at the District level. Due to proliferations of Farm Forestry, many queries are raised from the farmers from time to time. To meet this situation a separate cell is needed solving all problems related to poor growth insect attack, problems caused by water logged areas etc.

Time Table for the Evaluation Report

- August 24, 1990 : Signing of the contract at USAID Office New Delhi
- August 25 - 29, 1990 : Briefing at USAID, collection of documents, advances etc.
- August 30, 1990 : Departure for Pune
- August 31 - September 1, 1990 : Discussion with SFD staff, and Kirloskar consultants; collection of various reports and documents, finalization of field visits etc.
- September 2, 1990 : Move from Pune to Kolhapur
- September 3 - 6, 1990 : Halt at Kolhapur - field visits to various villages in Kolhapur, Sangli and Satara District.  
Discussion with various Sarpanches, Voluntary Bodies, and Cooperative Sugar Factories
- September 7, 1990 : Move from Kolhapur to Pune
- September 8, 1990 : Move from Pune to Aurangabad
- September 9 - 11, 1990 : Halt at Aurangabad - field visit to various villages in Aurangabad and Buldhana districts
- September 12, 1990 : Move from Aurangabad to Akola
- September 13 - 15, 1990 : Halt at Akola - field visits to various villages in Akola district
- September 16, 1990 : Move from Akola to Aurangabad
- September 17, 1990 : Move from Aurangabad to Pune
- September 18 - 23, 1990 : Halt at Pune. Drafting of report, discussions with SFD staff etc.
- September 24, 1990 : Move from Pune to Bombay
- September 25, 1990 : Discussions with Forest Secretary Maharashtra at Mantralaya and departure for New Delhi
- September 26 - 30, 1990 : Halt at New Delhi; discussions with USAID on the first draft, finalization of the final draft and submission of the Evaluation Report.

## Appendix XX

### List of SFD staff met and Interviewed by the team

1. Sri S. P. Narvane Director, SFD
2. Sri S. D. Lele Dy. Director, Head Quarters
3. Sri R.D. Sodehittal Dy. Director
4. Sri V.G. Takelkar Dy. Director, Administration
5. Sri G.V. Joshi Dy. Director, Extension
6. Sir K.A. Kate Joint Director, Kolhapur
7. Sri V.D.H. Jodhav Dy. Director, Kolhapur
8. Sri A.G. Patel Asstt. Director, Kolhapur
9. Sri S.R. Desai Asstt. Director, Kolhapur
10. Sri B.K. Singh Joint Director, Aurangabad
11. Sri K.B. Salve Asstt. Director, Aurangabad
12. Sri C.G. Deshpande Asstt. Director, Aurangabad
13. Sri Jwala Prasad Joint Director, Akola
14. Sri S.P. Dixit Dy. Director, Akola
15. Sri C.S. Deshmukh Asstt. Director, Akola
16. Sri P.K. Mahajan Asstt. Director, Akola
17. Dr. S.S. Parasnis (Director SFD, on leave)
18. Sri P.G. Sathe Retired CCF Maharashtra
19. Sri S.G. Joshi Computer consultant with SFD

Appendix XXI

Statement showing the no. of participants trained under different categories  
and expenditure thereon from the year 1983-84 to 1988-89

| Sr. No.      | Category of training | Details of participants  | 1983-84        |                     |                                      | 1984-85        |                     |                                      | 1985-86        |                     |                                      |
|--------------|----------------------|--|----------------|---------------------|--------------------------------------|----------------|---------------------|--------------------------------------|----------------|---------------------|--------------------------------------|
|              |                      |  | No. of courses | No. of participants | Expenditure in crores (Rs. in lakhs) | No. of courses | No. of participants | Expenditure in crores (Rs. in lakhs) | No. of courses | No. of participants | Expenditure in crores (Rs. in lakhs) |
| 1            | 2                    | 3  | 4              | 5                   | 6                                    | 7              | 8                   | 9                                    | 10             | 11                  | 12                                   |
| 1.           | Village Level        | Labourers, Watchmen Motivators, Plantation Kotwal, Sarpanchas, Teachers, Social-workers  | 315            | 12266               | 5.85                                 | 285            | 11655               | 3.51                                 | 174            | 10969               | 1.77                                 |
| 2.           | District Level       | Gram Sevaks, Members of Panchayat Samity Sarpanch, Asstt. Plantation Officer, Students of primary high school & college                            | 184            | 11296               | 6.11                                 | 196            | 12281               | 4.81                                 | 1020           | 7417                | 1.78                                 |
| 3.           | Regional Level       | Distt. Level Officers of various Deptt. Social workers, people's workers, people's representative, Dy. Dir., Asstt. Dir., Plantation Officers etc. | 52             | 6729                | 3.03                                 | 24             | 1254                | 2.03                                 | 6              | 445                 | 0.67                                 |
| 4.           | State Level          | Jt. Directors, Dy. Directors, Asstt. Directors, Plantation Officers, Asstt. Plantation Officers  | 7              | 131                 | 1.15                                 | 7              | 131                 | 0.66                                 | 6              | 16                  | 0.21                                 |
| <b>TOTAL</b> |                      |  | <b>558</b>     | <b>30422</b>        | <b>16.12</b>                         | <b>512</b>     | <b>25321</b>        | <b>11.01</b>                         | <b>1206</b>    | <b>18847</b>        | <b>4.43</b>                          |

Appendix XXI (Continued)

Statement showing the no. of participants trained under different categories  
and expenditure thereon from the year 1983-84 to 1988-89

| Category of training | Details of participants  | 1986-87        |                     |                                      | 1987-88        |                     |                                      | 1988-89        |                     |                                      |
|----------------------|--|----------------|---------------------|--------------------------------------|----------------|---------------------|--------------------------------------|----------------|---------------------|--------------------------------------|
|                      |  | No. of courses | No. of participants | Expenditure in crores (Rs. in lakhs) | No. of courses | No. of participants | Expenditure in crores (Rs. in lakhs) | No. of courses | No. of participants | Expenditure in crores (Rs. in lakhs) |
| 2                    | 3  | 4              | 5                   | 6                                    | 7              | 8                   | 9                                    | 10             | 11                  | 12                                   |
| Village Level        | Labourers, Watchmen Motivators, Plantation Kotwal, Sarpanchas, Teachers, Social-workers  | 317            | 14303               | 3.51                                 | 379            | 17010               | 5.32                                 | 356            | 24263               | 7.94                                 |
| District Level       | Gram Sevaks, Members of Panchayat Samity Sarpanch, Asstt. Plantation Officer, Students of primary high school & college                            | 206            | 12141               | 2.43                                 | 197            | 8272                | 4.72                                 | 138            | 8904                | 6.23                                 |
| Regional Level       | Distt. Level Officers of various Deptt. Social workers, people's workers, people's representative, Dy. Dir., Asstt. Dir., Plantation Officers etc. |                |                     |                                      | 11             | 717                 | 1.77                                 | 20             | 1303                | 2.57                                 |
| State Level          | Jt. Directors, Dy. Directors, Asstt. Directors, Plantation Officers, Asstt. Plantation Officers  | 6              | 123                 | 6.45                                 | 11             | 300                 | 6.15                                 | 25             | 65                  | 1.97                                 |
| -                    |  | 529            | 26567               | 12.39                                | 598            | 26299               | 17.96                                | 539            | 34540               | 18.71                                |

Note: (i) Female participants 20%  
(ii) Office staff 10%  
(iii) Other Categories 70%  
(iv) Foreign training personnel 33.

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RESPONSE TO RIG AUDIT POINTS

- o Status of private and community plantations (both departmental and panchayat managed) established under the project

Covered in chapters 2 & 3
- o Actual outturn of different products as compared to the estimated yield at the time of project design (assessment of cost/benefit ratio)

See para 3.6
- o Nature of product benefit distribution (free/concessional) to the villagers from the community woodlots; conformity of such distribution with existing approved guidelines (copy attached); adherence to the provision of depositing specified percentage of revenue realized by sale of product from the community plantations for purpose of sustaining new plantation initiatives after final harvesting.

See para 3.5
- o Existing marketing structure for sale of produce (pole/fuelwood) from plantations, including govt. policies and regulations that either tend to facilitate or constrain sustainability.

See chapter 5
- o Multiplier effect of project private and community plantations in the villages as a result of project activity.

See para 3.7
- o Status of plantation sites in relation to the adjoining barren/non-afforested areas.

See para 3.8
- o Evidence of research and extension to support evolving social forestry needs.

See para 6.4

- o Analysis of the trend of development of nurseries and seedling production/distribution

Progressive yearwise increase/decrease in the number of (a) decentralised nurseries establishment (b) seedlings production/distribution and (c) beneficiaries entering the tree production system.  
Extent of devolution of nursery management by private individuals.

See para 2.3.5; 4.2.1 App. VIII and IX sub Section 2.6

- o Seedling pricing policy

Phasing out free/concessional sale with the eventual intent of recovering production set of seedlings, based on a Seedling Pricing Study.

See sub section 2.3, paras 2.3.1 to paras 2.3.7

- o Available SFD Extension Services

Species selection for raising the nurseries by private nursery operators in keeping the evolving programme and the market potential.

See para 4.3

## APPENDIX XXIII

### GLOSSARY

#### Common Local Names

|               |   |                           |
|---------------|---|---------------------------|
| Mahila Mandal | : | Women's Organization      |
| Panchayat     | : | Elected village body      |
| Sarpanch      | : | Head of village panchayat |
| Tehsil/Taluka | : | District sub-division     |
| Yuvak Mandal  | : | Youth organization        |
| Ghat          | : | Coastal hills             |

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#### Common Tree Species

| Common name               |   | Botanical name         |
|---------------------------|---|------------------------|
| 1. Ain                    | : | Terminalia tomentosa   |
| 2. Anar/Darim/Pomegranate | : | Punica granatum        |
| 3. Ashok                  | : | Polylathia longifolia  |
| 4. Bor/Ber                | : | Zizyphus mauratiana    |
| 5. Bamboo                 | : | Dendrocalamus strictus |
| 6. Babul                  | : | Acacia arabica         |
| 7. Custard Apple          | : | Anona squamosa         |
| 8. Chunch/Imli/Tamarind   | : | Tamarindus indicus     |
| 9. Gold Mohar             | : | Delonix regia          |
| 10. Khamar                | : | Gmalina arborea        |
| 11. Kashid                | : | Cassia siamea          |
| 12. Mango                 | : | Mangifera indica       |
| 13. Neem                  | : | Azadirachta indica     |
| 14. Nilgiri               | : | Eucalyptus hybrid      |
| 15. Subabul               | : | Lucaena leucocephala   |
| 16. Sissoo/Shisham        | : | Dalbergia siasoo       |
| 17. Tendu                 | : | Diospyros melanoxylon  |
| 18. Teak                  | : | Tectona grandis        |

MAHARASHTRA SOCIAL FORESTRY

(Project No. 386-0478)

STATEMENT OF WORK FOR FINAL EVALUATION

I. BACKGROUND:

Designed in 1982, the USAID assisted Maharashtra Social Forestry Project (MSFP) has the objectives of (i) increased supply of fuelwood, fodder, fruit and small timber in rural areas (ii) reduced rate of deforestation, and (iii) increased rural employment. The purpose of this eight year project is to develop the capacity of the State Social Forestry Department (SFD) to help farmers and communities manage their private and common lands for increased and sustained production of forest products. It was envisioned that such institutional strengthening will be attained through effective interface between private/community initiatives and public sector support. The major elements of the project are (a) creation of public and private sector tree seedling nurseries for plantation programs; (b) establishment of plantations on private and community lands for increased production, (c) development of management skills in the farmers and communities to sustain village afforestation programs, and (d) technical and socio economic research to help develop and expand the social forestry programs.

The midterm evaluation of 1985 observed that while the physical targets of nurseries and plantations were basically being attained, there was a lack of emphasis on project activities that have the greatest impact on long-term sustainability of the program (ie. training, research, extension, TA etc.) A subsequent audit by the RIG in 1988 also stressed the need to look into the question of sustainability of the nursery and plantation programs.

Since some of the key issues relating to sustainability could only be addressed at the time of project completion, the Mission decided that the final evaluation would specifically focus on the question of sustainability.

## II. PURPOSE OF EVALUATION

The primary purpose of this evaluation is to look into the question of sustainability of nursery seedling production and private/community plantation development. Important dimensions will include (a) the trend of seedling production/distribution through government/private nurseries; (b) the issues of nursery decentralisation and seedling pricing policy; (c) the status of private/community plantations with specific focus on benefit distribution/derivation; (d) the comparison of actual cost and benefit with original plans in the project; and (e) the effectiveness of SFD training, research, extension and monitoring activities in promoting sustainability.

## III. SCOPE OF WORK

The final evaluation will address the following specific questions related to the sustainability of the activities initiated under the project.

- 1) What have been the trends of decentralized nursery establishment (both govt. and private) and seedling pricing policy to support expanded privatized seedling production?
- 2) What is the status of private and community plantations established under the project and what has been their multiplier effect?
- 3) How does the actual production of forest products from the community and private plantations compare with the planned benefits (cash and kind)? How are the product benefits from community woodlots distributed in the village and to what extent is this practice consistent with the recommended guideline?

:3:

- 4) To what extent the management responsibilities have been successfully transferred from SFD to the village communities?
- 5) How have external and market conditions affected the potential sustainability of the plantations?
- 6) How have the extension, training and research activities of the SFD either facilitated or constrained the sustainability of private/public nursery/plantation development programs?
- 7) What systems/procedures have the SFD established to monitor various program including the sustainability of the plantations and nurseries raised under the project, and what is their effectiveness?

#### IV. DETAILED SCOPE OF WORK AND METHODOLOGY

In order to best answer the questions presented above, the evaluation team should follow the guidelines outlined below:

##### 1) Seedling Production & Pricing

The evaluation should examine (1) the yearwise increase/decrease with respect to the number of (a) decentralized nurseries developed (b) seedling production and distribution, and (c) beneficiaries entering tree production system. The extent of additional seedling production/distribution and farmer participation through other social forestry schemes that supplement the project initiative should also be looked into. The primary intent should be to examine the extent the nurseries have been decentralized providing farmers easy access to seedling and privatization of such decentralized seedling centres with or without buyback arrangements. (2) A related issue to be examined will be the evolution of seedling pricing over time and its relationship with true private nursery development given that pricing of seedling at cost plus margin of profit can only help facilitate privatization of seedling production.

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To answer these questions, the evaluation will use SFD records and the available M&E unit survey results. The SFD study on 'Income Generation by Kishan Nurseries' will provide valuable insight to the evaluation team. The team will cross check these records and findings through site visits to selected sample sites (minimum 15 villages in each of 3 districts).

2) Status of Private and Community Plantations

The team will assess the extent to which project accomplishments in the private and community plantation categories compare with the planned targets. A related issue is to examine the multiplier effect of project activity in the target villages as also in the adjacent areas supported through other Rural Development schemes. Such ripple effect would tend to demonstrate the potential sustainability of the private/community plantation programs.

To address the issues mentioned, the team will examine SFD monitoring records/reports and the govt. orders. To confirm and amplify SFD monitoring records/reports, the team will undertake onsite inspection and conduct interviews with project beneficiaries in a sample of no less than 15 randomly selected project villages in each of 3 districts, as well as a limited number of adjacent nonproject villages. Advantage will also be taken of the available USAID studies on the 'Farmers Tree Growing', 'Role of Cooperatives in Social Forestry' and 'Voluntary Agency Tree Planting' to address some of the important questions.

3) Planned Vs. Actual Benefits and Costs

The evaluation will look into the status of project private and public woodlots with specific reference to the plantation cost/benefit calculations by taking into consideration the entire range of benefits that accrue from key production models (computing actual market values of different products). It is also necessary to make a comparative analysis between the planned and actual cost and benefits from the private and

community plantations. Furthermore, the evaluation will examine the degree to which the equity considerations are addressed in product benefit distribution from woodlots (to the extent intermediate/final harvesting and actual distribution following established guidelines have taken place). A related issue is that development of alternative distribution models based on the experiences of project implementation. Yet another critical issue relates to the question of village willingness to set aside some percentage of revenue generated through sale (concessional/market rate) of products from the community woodlots for second rotation village plantation establishment.

The analysis will be undertaken: for community woodlots through an examination of records (plantation journals) reflecting entire range of benefits (grass, leaf fodder, fruit, fuelwood, small timber, cash income, increased agriculture productivity etc.) to the villagers following intermediate/final harvesting (cross checked by site inspection and interviews with beneficiaries in sample villages as per above); for private plantations: information collection from interview with selected farmers (& cooperatives) in the sample villages. The actual benefits will be compared with that planned in the project.

#### 4) Decentralised Woodlot Management by Village Councils

The project envisioned that Gram Panchayats (GPs) reckoned as village level government councils, will assume community woodlots management responsibilities after 3 years of plantation establishment. So far 2080 GPs have assumed such responsibility out of 4300 village plantations. The evaluation should examine through review and field visits of both departmentally managed and community managed woodlots the factors that facilitated or constrained either assumption or non-assumption of woodlots management responsibilities by the GPs. Since the management plans act as institutional tools for village-SFD collaboration, the effectiveness of such management plans in achieving the intended interaction will also be examined.

For this part of the analysis, the team will review the USAID study on 'Panchayat Management of Block Plantations' and examine through field visit and interviews with panchayat leaders and villagers some of the important study observations regarding decentralised management (focus group interviews when possible). The USAID study on 'Stall Feeding and Livestock Management' will provide useful information regarding the 'push' and 'pull' factors facilitating or constraining community management of woodlots.

5) External and Marketing Conditions Affecting Sustainability

Analysis of the existing market structure for primary end products will provide information to the tree growers regarding present and anticipated prices of various products. The review should examine the extent to which information is available regarding (a) strengths and weaknesses of the existing marketing channels, policy issues that need to be addressed to reduce/eliminate existing market distortions and (b) alternative marketing opportunities available for specific end products.

The team will use the existing SFD study on 'Marketing Avenue for Social Forestry Products' as the primary source for this part of the analysis. In addition interviews with the SFD staff, panchayat leaders and villagers during field visits will be useful to capture any additional perception regarding social forestry product marketing. Yet another issue concerns the liberalisation of existing Rules and Regulations relating to tree felling and transportation that act as positive disincentive to farmers/communities willing to enter tree production system. The evaluation should look into the degree to which such liberalisation has taken place.

The team will also meet with SFD field staff and villagers to ascertain extent of awareness regarding any change/modification of rules/regulations.

6) Research and Training Support

Some of the important issues concern development of alternative forestry/agroforestry/silvipastoral models for the private and public plantation programs as also information relating to production estimates. The evaluation should examine the extent of research studies undertaken to address these questions and actions taken to analyse available plantation data to estimate production of different species as well as any practical applications in the fields.

The evaluation should also specifically examine the effectiveness of the SFD in providing training and skills transfer to the beneficiary communities particularly with respect to nursery development and plantation management.

This part of the review will be undertaken from an examination of the available reports and records concerning ongoing and planned research and training (departmental and contractual) programs and field interviews with the SFD staff and community members. The intent is to examine the private and public sector capacity development to sustain social forestry and related wasteland development programs.

7) Monitoring & Evaluation Support

It is necessary to evaluate the effectiveness of the present M&E unit to carry out the social forestry monitoring and evaluation program in keeping with the operational guide and assess the extent to which the evaluative survey results have been utilised to make changes in policy and program implementation. The impact of technical assistance provided through direct USAID contract for purpose of maintaining and updating the software, particularly to respond to evolving and emerging program implementation needs, as also to support training of the M&E unit staff consistent with the programmatic requirements, will also be examined.

:8:

The team will review the SFD M&E reports for this part of the analysis and interview members of M&E unit as to M&E procedures and applications. The team will also interview a selected number of people at the village level and assess the adequacy of M&E operations.

#### V PERFORMANCE PERIOD/WORKPLAN

The evaluation will be initiated on or about August 24, 1990. It will begin with a two day briefing session in the New Delhi Office when the consultants will review background materials on the project and discuss issues related to the project evaluation with concerned Mission staff. The consultants will then proceed to Maharashtra Social Forestry Headquarters in Pune for 4 days of extensive desk review of SFD documents and records and interviews with the SFD officials.

This will be followed by 15 days of site visits to a minimum of 15 sample project villages in each of 3 selected districts for a total of 45 villages (and also selected "non-project" villages to the extent possible to assess the projects multiplier effects). The villages will be randomly selected from among those included in the first two years of the project, where the forest products have had the most time to mature.

Following completion of field visits, a draft report will be developed (3 days) outlining key findings and the same would be discussed with SFD officials in Pune (1 day) and Bombay. Finalization of the draft report after incorporating SFD comments should be done in three days at Delhi which will be followed by a Mission debriefing. The final report will be developed after incorporating USAID comments, if any, during the next two days. (See Attachment C)

#### VI REPORTING

1. The contractors will prepare a Draft report which addresses questions (1) through (7) in Section III further elaborated in Section IV. Five copies of the draft report will be submitted to USAID/New Delhi no later than 1 day prior to the final debriefing.

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Contractors will submit one original and ten copies of the Final Report after receipt of USAID comments on the draft report. The final report will include an Executive Summary.

## VII STAFFING & RESPONSIBILITIES

The evaluation team will consist of two Indian consultants. One consultant will be an experienced forester having extensive field experience and benefit-cost analysis skills (for assessment of current status of plantations and nurseries based on field inspection, estimation of benefits, and costs of outturn of forestry products; assessment of market conditions, policies and other factors affecting sustainability, appropriateness of forestry research). The second consultant will be a senior social scientist (i.e. sociologist/anthropologist/rural development specialist) with extensive experience in institutional and community analysis, training and extensive techniques, and familiarity with forestry issues, (for assessment of benefit distribution, communicating management capabilities, effectiveness of SFD training and extensive support to communities and individuals for sustainability, and SFD M&E systems - as well as SFD and community attitudes affecting sustainability).

The specific responsibilities of the consultants would be:

The Forestry Consultant will look into the questions of private/community plantation status along with multiplier effects, actual production of forest products from community/private plantations as compared to the planned benefits, effect of external and market conditions on sustainability, the system/procedures to monitor nursery/plantation development and the effect of training and research on program sustainability as specified in the SOW .

The Social Scientist will examine the trend of decentralised nursery establishment, seedling pricing policy to support privatized seedling production, the actual product benefit distribution from community woodlots compared with the recommended guidelines, extent of successful transfer of management responsibilities to village communities and the impact of extension, activities on sustainability as detailed in the SOW.

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The Forestry consultant will act as the team leader and be responsible for direct preparation of the evaluation report including the executive summary.

#### VIII RELATIONSHIPS AND RESPONSIBILITIES

The evaluation team shall report to and coordinate with the USAID project officer for the Maharashtra Social Forestry Project. The USAID Evaluation Officer will serve as facilitator to the team.

#### IX ATTACHMENTS

- A. Budget
- B. List of key references and reports
- C. Activity Plan

PIOT10

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