A. Reporting A.I.D. Unit: Mission or AID/W Office AID/India (ES#: _____)

B. Was Evaluation Scheduled in Current FY Annual Evaluation Plan? Yes [X] Slipped [ ] Ad Hoc [ ] Evaluation Plan Submission Date: FY ___ Q ___

C. Evaluation Timing: Interim [X] Final [ ] Ex Post [ ] Other [ ]

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 PROAC or Equivalent (FY)	Most Recent PACD (Mo/Yr)	Planned LOP Cost (000)	Amount Obligated to Date (000)
386-0495	National Social Forestry Project	1986	July 31, 1990	80,000* *Original LOP	$51,900

ACTIONS

E. Action Decisions Approved By Mission or AID/W Office Director — Action(s) Required	Name of Officer Responsible for Action	Date Action to be Completed
1. The Mission Review Committee (MRC) approved the proposed changes in project components/subcomponents, physical targets, unit costs and respective budgets and directed that a PIL be issued ASAP reflecting these changes	Amitabha Ray RM Office S.Freundlich PRJ Office	Sept.15 1988
2. The MRC agreed in principle to increase the level of technical support to meet the critical T.A needs of the project. The Resource Management office will prepare comprehensive T.A. operational plan for circulation and approval in the Mission.	Barry Primm RM Office	Sept.15 1988
3. The MRC approved in principle support for NWDB as the Central Support Unit on condition that the GOI proposal meets project requirements. RM Office should analyze the proposal and prepare an Action Memorandum with its recommendations for Mission review and approval.	Amitabha Ray RM Office	Sept. 30 1988
4. The MRC agreed that the Mission would seek project reauthorization beyond June 1989.	S.Freundlich PRJ	Dec.31, 1988
5. MRC agreed in principle to extend the PACD by 5 months to December 31, 1990 and to obligate the additional funds required to finance the project through revised PACD.	S.Freundlich PRJ	Prior to July 1990

(Attach extra sheet if necessary)

APPROVALS

F. Date Of Mission Or AID/W Office Review Of Evaluation: (Month) August (Day) 18 (Year) 1988

G. Approvals of Evaluation Summary And Action Decisions:

	Project/Program Officer	Representative of Borrower/Grantee	Evaluation Officer	Mission or AID/W Office Director
Name (Typed)	Barry Primm, RM		John P.Grant,DPP/E	Robert N. Bekley, D
Signature				
Date	January 5, 1989		January 5, 1989	January 9, 1989

This Joint USAID World Bank Project aims to assist the Government of India (GOI) and the States of Gujarat, Himachal Pradesh, Rajasthan and Uttar Pradesh to:a) increase the production of forestry products; b) increase rural incomes, employment and equity; c) reduce soil erosion and improve the environment on degraded wastelands. This midterm evaluation was jointly carried out by USAID/India, World Bank, GOI, and the four states concerned. The purposes of the evaluation were to: a) assess the degree to which the project is meeting its objectives; b) identify necessary mid course corrections and c) re-examine social forestry within the current context and chart future directions. The review methodology was based on a team planning process: specialists from different disciplines and institutions carried out rapid appraisal field visits to each State, and held group meetings with villagers, field technicians, and State officials. Special issues such as legislative constraints, the potential contribution of NGOs and the role of women were identified for indepth review.

Major findings and conclusions include :

- Significant progress has been made in achieving physical planting targets. Approximately half a billion seedlings have been distributed for planting, representing 118% of the target set for the project as a whole.

- Increases in the total production of wood products are efficiently and spectacularly being accomplished by farmers planting trees on their own land.

- Rural Incomes are being augmented both through private farm forestry and through the massive employment benefits of community and government wasteland planting.

- Equity objectives are also addressed through the collection of fuel and fodder from public plantations and the targetting of special pilot programs such as tree tenure initiatives. However, implementation of the pilot programs has been more problematic than anticipated, resulting in a limited number of beneficiaries to date.

- Environmental aspects were neglected during project design and achievements are limited.

- Little progress has been made in employing and involving women, except in one State.

- There has been neglible involvement of NGOs.

- Important, albeit insufficient, incremental gains have been made in strengthening the technical and managerial capacity of concerned Forest Departments and private farmers.

COSTS

Evaluation Costs

1. Evaluation Team Name	Affiliation	Contract Number OR TDY Person Days	Contract Cost OR TDY Cost (U.S. $)	Source of Funds
Dr. A.Molnar	Independent Consultant	386-0495-0-00-8082-053188	16,000	Project Grant
Dr. M.Hatziolos	USAID contractor	386-0495-0-00-7350-123187	4,400	Project Grant
Dr. G.Campbell	PSC	386-0495-0-00-6053-050888	24,000	"
Dr. D.Anderson	PSC	ANE-0495-S-00-6038-103188	4,200	"
Dr. W. Myers	JCC	MO-386-87-153-091489	5,400	"
Sen/Ray/ Marballi/Grant	USAID Staff	315 person days	-	O.E.
VandeRoll/ Banerjee Singh/Rowe	IDA Staff	110 person days	-	By IDA

2. Mission/Office Professional Staff Person-Days (Estimate) 50

3. Borrower/Grantee Professional Staff Person-Days (Estimate) 400

A.I.D. EVALUATION SUMMARY - PART

SUMMARY

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

- Purpose of evaluation and methodology used
- Purpose of activity(ies) evaluated
- Findings and conclusions (relate to questions)
- Principal recommendations
- Lessons learned

Mission or Office:	Date This Summary Prepared:	Title And Date Of Full Evaluation Report:
USAID/INDIA	Dec. 1988	India National Social Forestry Project October 1988

1. Purpose of Activities Evaluated

The overall objectives of the project are to: (a) increase the production of forestry products (fuelwood, small timber, poles and fodder) to help meet national and local deficits; (b) increase rural incomes, employment and equity, particularly opportunities for the poor and landless; and (c) reduce soil erosion and improve the environment. To meet these objectives in a sustainable way, the project was designed in collaboration with the World Bank to strengthen the capacity of public and private institutions in four States and the GOI to carry out a variety of tree production programs and develop viable methods for addressing natural resource shortages and degradation on both private and public lands.

2. Purpose of Evaluation and Methodology Used:

As scheduled in project documents, a mid term review of the project was conducted in order to: (a) evaluate the degree to which the project is meeting its objectives and (b) to identify needed mid-course changes. Since two of the States have carried out social forestry for over eight years and there is currently considerable debate on the subject as well as GOI and donor reappraisal of social forestry, the additional purpose was added to: (c) re-examine social forestry with the present context and chart future directions.

The methodology was based on a team planning process whereby specialists from different disciplines and institutions carried out rapid appraisal field visits to each State, held a variety of group meetings with villagers, field technicians, state officials and fellow team members. These visits were based on a review of background materials and documents prepared by each State, including the most recent monitoring and evaluation studies carried out, and individually designed observational and interview schedules. Considerable emphasis was placed on producing Action Plans for post-evaluation follow-up, each of which was discussed in detail with State and GOI officials, and agreed upon in a wrap-up meeting called by the GOI and attended by each State, the World Bank, and USAID.

The final report consists of three sets of documents: Part I contains the overall report, a summary action plan, and accompanying tables; Part II consists of detailed State Subproject Aide Memoires and Action Plans; and Part III contains the annexes on technical, institutional, and socio-economic issues, including women, NGOs, and an elaboration of the methodology used.

3. Findings and Conclusions:

Findings:

The project has reported significant progress in achieving physical planting targets. Approximately half a billion seedlings have been distributed for planting, representing 118% of the target set for the project as a whole. However, most project components have averaged 80% achievement due in part to a 25% budgetary shortfall related to the continuing drought affecting most States. Monitoring reports show reasonable survival rates (50-60% for farm forestry and 60-70% for public forestry), however few independent surveys have yet been conducted. Budgets for the remaining project years are expected to increase, allowing most physical targets (as revised by this review) to be achieved if the project is extended to the end of 1991.

Project objectives are being met to different extents by the various planting programs. Increases in the total Production of wood products is most efficiently and spectacularly being accomplished by farmers planting trees on their own land. These include block plantations on both good and degraded lands, and, increasingly agroforestry boundary plantations and intercropping models. Total production from farm forestry through the project alone could be approaching 10% of India's current commercial and industrial needs -- providing considerable potential relief to existing forests.

Rural incomes are being augmented both through private farm forestry and through the massive employment benefits of community and government wasteland planting. Employment benefits are entirely obtained by the poor through self-selection and increasingly smaller farmers are taking up tree farming, although around half of the participating farmers are either medium or large landowners. Equity objectives are also addressed through the collection of fuel and fodder from public land plantations and the targeting of special pilot programs such as tree tenure initiatives. On public lands, the amount of returns received by poor users is primarily a function of the type of plantation model used: most currently used models provide less than anticipated benefits. Implementation of the targeted pilot programs have proved to be more problematic than anticipated resulting in a limited number of beneficiaries to date.

Although most of the planting programs provide some positive environmental benefits, this aspect of the project was neglected during project design and achievements are considerably less than they could be. In addition, over-reliance on traditional timber production models and methods without regard to site variations and the need for continuous ground cover sometimes produces negative or merely neutral results.

Important, if insufficient, incremental gains have been made in strengthening the technical and managerial capacity of the concerned Forest Departments and private farmers to carry out social forestry planting programs. While training, monitoring and evaluation, and microplanning have demonstrated noteworthy progress, needed extension and research have lagged behind. The capacity for GOI support to the States through a Central Support Unit has been less than anticipated.

Conclusions:

The objectives and activities of social forestry need to be realigned to reflect the actual achievements and lessons learned in the last decade of social forestry projects in India. Naive expectations regarding farmer motivations and the strength of local panchayat institutions need to be laid to rest along with previous macro analyses of the supply and demand for forest products which overemphasized the fuelwood gap and failed to place social forestry within an overall land use and resource production context. A new strategy -- based on those elements of the NSFP which are succeeding -- is required which incorporates the objectives of production, incomes and equity, and environmental rehabilitation in a holistic perspective.

As set out in the report, such a strategy would allocate the responsibility for producing short rotation wood for the industrial and commercial requirements of the country largely to private farmers. This would allow the reserve forest estate to confine itself to long term wood production with limited local usage and increased environmental benefits. The subsistence requirements of poor rural residents could then be accommodated within the public wasteland plantation program on community, revenue, and degraded government forest lands by using technologies which would be environmentally sustainable.

Action plans for each State have been developed to implement this strategy in the remaining project period. These plans call for :

- Placing private farm forestry on a self-sustaining basis through continuing privatization of seedling production, removal of subsidies (particularly for larger farmers), removal of legislative constraints to tree harvesting and marketing, diversification of agroforestry technologies, and increase of agroforestry research, extension, and marketing support;

- introducing new technologies for public forestry on community and wasteland plantations which incorporate environmental and socio-economic concerns by using wider spacing, increased sowing of trees and shrubs for low cost continuous fuelwood supply, countour furrow planting and increased grass and legume production to provide fodder and increase soil and moisture conservation;

- focusing experimental programs such as tree tenure for the poor, community management and private wasteland planting into pilot projects which explore alternate land use arrangements, and reducing or eliminating experiments which show little promise;

- greatly expanding technical research and planning capabilities through contractual arrangements with State Agricultural Universities, increased training, workshops and technical assistance; and

- increasing women's involvement through increased recruitment of women forestry staff and greater coordination with Non-Government Organizations through GOI and State initiatives.

4. Principal recommendations :

It is recommended that the Mission support the effective implementation of the strategic and operational changes identified by the evaluation and outlined in the State Action Plans through: (a) revising the logical framework; (b) issuance of a PIL containing the modifications in targets and unit costs; (c) providing additional technical assistance to support the increased emphasis on introducing new technologies, planning and monitoring, and involvement of women and NGOs; (d) collaborating with the NWDB (GOI) to strengthen central level support; (e) extending the PACD by six months to coincide with the IDA Credit and allow time for States to make up initial budgetary shortfalls; and (f) maintaining close monitoring of the GOI and States' progress in fulfilling the operational and policy recommendations contained in the Action Plans.

In accordance with the Mission's new CDSS, possible follow on activities should build on the existing collaborative relationships with the State Forest Departments, Agricultural Universities, Ministry of Forest and Environment of GOI, and the World Bank to identify programatic modes for sustained technical cooperation, software support, and policy dialogue.

5. Lessons Learned :

This evaluation has shown how it is important to identify how different project components need to be linked to the different objectives they serve. Counterproductive controversy and some confusion in the field has been generated by failing to clearly distinguish between those components primarily directed to production (i.e. farm forestry) from those directed towards poverty alleviation and environmental concerns (i.e. public forestry). By focusing on overall objectives as well as the project purpose, the evaluation was able to redefine the project's framework and more clearly chart a future strategy.

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 ongoing projects, if relevant to the evaluation.)

India National Social Forestry Project:Midterm Review Report

Part I: Overall Midterm Review Report
Part II:State Subproject Reports/AIDE Memoires
Part III:Technical Annexes

COMMENTS

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

INDIA NATIONAL SOCIAL FORESTRY PROJECT

MIDTERM REVIEW

PART I: OVERALL MIDTERM REVIEW REPORT

Report of the Joint Midterm Review Team
World Bank
U.S. Agency for International Development
Government of India

Prepared for Distribution by USAID/New Delhi

October, 1988

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PART III: TECHNICAL ANNEXES

1. ECONOMIC ISSUES (B. Sen)
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5 NON-GOVERNMENTAL ORGANIZATIONS (John Grant/Sharon Holt)
6. PUBLIC FORESTRY BENEFITS, MANAGEMENT AND PLANNING (Augusta Molnar/Gabriel Campbell)
7. TECHNOLOGY AND RESEARCH (Amitabha Ray/A. Bannerjee)
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9. WORKPLAN: MIDTERM REVIEW METHODOLOGY (Gabriel Campbell)

PART I: LIST OF TABLES AND FIGURES

GLOSSARY

CIRCLE: Regional forest administrative unit under the control of Conservator of Forest

DIVISION: Forest administrative unit under the control of a Divisional Forest Officer (sub-unit of a Circle).

GOCHAR: Grazing land

GO-SADAN: Cattle home maintained by private or government organization

KATHA: Extract from the heartwood of Acacia catechu used for betel nut preparations (paan)

KISAN NURSERY: Farmer contracted nursery

PAISE: Plural of paisa (1/100 of a rupee)

PANCHAYAT: Local elected governing unit consisting of one or more villages

PATTA: Certificate of tenure issued by the Revenue Department authorities

RAKHA: Traditional community managed forest preserves in Himachal Pradesh

RANGE: Forest administrative unit under the control of a Forest Ranger (sub-unit of a Division)

RUPEE: Unit of currency in India

SHAMLAT: Common grazing lands in Himachal Pradesh

VAN CHETNA KENDRA: Forest Awareness Centre

LIST OF ACRONYMS

ACCF -- Additional Chief Conservator of Forests
AERC -- Agro Economic Research Centre, Himachal Pradesh University, Shimla
ASAP -- As soon as possible
BAIF -- Bharat Agro Industries Foundation, Pune
CCF -- Chief Conservator of Forests
CF -- Conservator of Forests
CFS -- Cooperative Forest Society
CWL -- Community Woodlot
DCF -- Deputy Conservator of Forests
DFO -- District Forest Officer
DNE -- Department of Nonconventional Energy
DPAP -- Drought Prone Area Programme
DRD -- Department of Rural Development
DRDA -- District Rural Development Authority
FD -- Forest Department
FG -- Forest Guard
FR -- Forest Ranger
Fr -- Forester
FY -- Fiscal Year
G.O. -- Government Order
GOG -- Government of the State of Gujarat
GOI -- Government of India (Central Government)
GOHP -- Government of the State of Himachal Pradesh
GOR -- Government of the State of Rajasthan
GOUP -- Government of the State of Uttar Pradesh
HA -- Hectare
H.P. -- Himachal Pradesh
IRDP -- Integrated Rural Development Program
IRMP -- Integrated Resourcess Management Plan
IDA -- International Development Association of the World Bank
IFY -- Indian Fiscal Year
LFG -- Lady Forest Guard
M&E -- Monitoring and Evaluation
MFP -- Minor Forest Products
MOA -- Ministry of Agriculture, Government of India
MOEF -- Ministry of Environment and Forests
NABARD National Bank for Agriculture and Rural Development
NDDB -- National Dairy Development Board
NREP -- National Rural Employment Programme
NSFP -- National Social Forestry Project
NWDB -- National Wastelands Development Board

LIST OF ACRONYMS (CONTINUED)

PACD -- Project Assistance Completion Date
PIL -- Project Implementation Letter
PCCF -- Principal Chief Conservator of Forests
RLEGP - Rural Landless Employment Guarantee Program
RDC -- Rural Development Corporation
RS -- Rupees
RDF -- Rehabilitation of Degraded Forests
RDA -- Rehabilitation of Degraded Areas
SAU -- State Agricultural University
SFW -- Social Forestry Wing
SFD -- State Forest Department
SMS -- Subject Matter Specialist
SOE -- Statement of Expenditure
SOW -- Scope of Work
T&V -- Training and Visit
USAID - U.S. Agency for International Development
VDC -- Village Development Committee

CHAPTER ONE

SUMMARY

INTRODUCTION

1.01 Large scale social forestry projects in India commenced in the late 1970s and have increased greatly during the past decade with both Government of India (GOI) and outside donor support. Based on analyses showing large and growing shortages of fuelwood, the original objectives of these projects were to provide poor rural populations with assured fuelwood supplies and increased employment by encouraging farm forestry and establishing plantations on unused community and public lands.

1.02 Designed in the mid-1980s, the National Social Forestry Project (NSFP) built upon these earlier efforts, but somewhat recast the goals. As set out in the project documents, the overall objectives of NSFP are to:

a) increase the production of forestry products (fuelwood, small timber, poles and fodder) to help meet national and local deficits;

b) increase rural incomes, employment and equity, particularly opportunities for the poor and landless; and

c) reduce soil erosion and improve the environment on degraded wastelands.

To meet these objectives in a sustainable way, the project was designed to strengthen the capacity of public and private institutions in four States and the Government of India (GOI) to carry out a variety of tree production programs and develop viable methods for addressing natural resource shortages and degradation on both private and public lands.

1.03 The project was appraised at US$ 327.8 million and is jointly funded by the World Bank (IDA Credit for $165 M.), the U.S. Agency for International Development (USAID) ($80 M.) and the Government of India ($82.8 M.). A variety of tree planting programs are supported in the States of Gujarat, Himachal Pradesh (H.P.), Rajasthan, and Uttar Pradesh (U.P.) for a total target of 709,000 hectares or approximately one billion seedlings planted.

1.04 Approximately 70 percent of this target was intended to be met through private farm forestry with most of the remainder planned for State Forest Department (FD or SFD) plantations in community woodlots and degraded forest lands, including road and railsides. In addition, funding was provided to improve Forest Department capacities to plan, implement and monitor these field activities.

REVIEW METHODOLOGY

1.05 As scheduled in the project documents, a midterm review of the project was jointly carried out by the World Bank, USAID, the Government of India (GOI) and the States of Gujarat, Himachal Pradesh (H.P.), Rajasthan and Uttar Pradesh (U.P.). This review was conducted in order to: (a) evaluate the degree to which the project is meeting its objectives and (b) identify needed mid-course changes. Given that two of the States have carried out social forestry for over eight years and that there is currently much debate on the subject, as well as GOI and donor reappraisal of the social forestry sector, a third purpose was added, to (c) re-examine social forestry within the present context and chart future directions.

1.06 The review team, which was divided into two groups for field visits, consisted of Ben Van de Poll, R. Rowe, and A. Bennerjee (IDA); J. Gabriel Campbell, Amitabha Ray, John Grant, Wayne Myers, Dorothy Anderson, Marea Hatziolos, Sharon Holt, D.A. Marballi, and B. Sen (USAID); B. Maleta and Anand Singh (GOI); and Chhatrapati Singh and Augusta Molnar (Consultants). J. Gabriel Campbell and Ben van de Poll led the USAID and IDA efforts respectively.

1.07 The review methodology was based on a team planning process: Specialists from different disciplines and institutions carried out rapid appraisal field visits to each State, and held a variety of group meetings with villagers, field technicians, State officials and fellow team members. These visits were preceded by a review of background materials and documents prepared by each State, including the most recent monitoring and evaluation studies carried out, and individually designed observational and interview schedules.

1.08 Special issues such as legislative constraints, the potential contribution of Non-Governmental Organizations (NGOs), and the role of women, were identified for in-depth review. Considerable emphasis was placed on producing Action Plans for post-evaluation follow-up for each State. Each Action Plan was discussed in detail with State and GOI officials, and agreed upon in a wrap-up meeting called by the GOI and attended by each State, the World Bank and USAID.

FINDINGS

1.09 The project has reported significant progress in achieving its physical planting targets. Approximately half a billion seedlings have been sold or distributed for private farmer planting, representing 118% of the target set for the project as a whole. However, most project components have averaged 80% achievement, due in part to a 25% budgetary shortfall related to the continuing drought affecting most States. Monitoring reports show reasonable survival rates (50-60% for farm forestry and 60-70% for public forestry); however, few independent surveys have yet been conducted. Budgets for the remaining project years are expected to increase, allowing most physical targets (as revised by this review) to be achieved if the project is extended to the end of 1990.

1.10 Project objectives are being met to different extents by the various planting programs. Increases in the total production of wood products are most efficiently and spectacularly being accomplished by farmers planting trees on their own land. This includes block plantations on both good and degraded lands and increasingly, agroforestry boundary plantations and intercropping models.

1.11 Total production from farm forestry through the project alone could be approaching 10% of India's current commercial and industrial needs. As illustrated by the shift in the procurement of materials for constructing fruit packing cases, away from hundred year old natural forests in H.P. (which until 1988 constituted most of the timber harvest in the State) to private Eucalyptus trees grown by farmers in the adjoining plains States, this production provides considerable potential relief to existing forests.

1.12 Rural incomes are being augmented both through private farm forestry and through the massive employment benefits of community and government wasteland planting. Direct employment benefits are entirely obtained by the poor through self-selection. Although around half of the participating farmers are either medium or large landowners, increasingly smaller farmers are taking up tree farming. Any impact of indirect employment appears mixed, although the data are inadequate for an informed judgment.

1.13 Equity objectives are also addressed through the collection of fuel and fodder from public land plantations and the targeting of special pilot programs, such as tree tenure initiatives. On public lands, the amount of returns received by poor users is primarily a function of the type of plantation model used, as community management has not been widely adopted under the existing approach and suffers from the weak state of local panchayat institutions. It was observed that most currently used models provide less than anticipated benefits. Implementation of the targeted pilot programs has been more problematic than anticipated, resulting in a limited number of beneficiaries to date, primarily due to the lack of clear access to land.

1.14 Although most of the planting programs provide some positive environmental benefits, this aspect of the project was neglected during project design and achievements are considerably less than they could be. In addition, over-reliance on traditional timber production models and methods, without regard to site variations and the need for continuous ground cover, sometimes produces negative or merely neutral results.

1.15 Important, albeit insufficient, incremental gains have been made in strengthening the technical and managerial capacity of the concerned Forest Departments and private farmers to carry out social forestry planting programs. While training, monitoring and evaluation, and microplanning have demonstrated noteworthy progress, needed extension, site suitability planning, policy adjustments and research have lagged behind. The capacity for GOI support to the States through a Central Support Unit has been less than anticipated.

1.16 Legislative hurdles to harvesting, transporting and marketing of trees from private lands constrain the number and diversity of tree species planted by farmers. While one State (H.P.) has shown noteworthy progress in employing and involving women, no substantial progress in this area has been achieved by the other States. In all States there has been negligible involvement of NGOs, despite their clear potential for facilitating greater participation by the local people, a situation which is exacerbated by the GOI's centralized procedures for supporting NGO social forestry activity.

FUTURE STRATEGY

1.17 The objectives and activities of social forestry need to be realigned to reflect the actual achievements and lessons learned in the last decade of social forestry projects in India. Social forestry was originally designed to address the problems of fuelwood shortages and common grazing land degradation by providing the means for farmers to grow their own fuelwood and fodder and by establishing woodlots on village lands which were to be turned over to local panchayats.

1.18 This strategy has proven unrealistic. Farmers grow trees primarily for increased income through wood sales as they perceive income as a higher priority than fuelwood. Panchayat management of community woodlots is highly problematic, given the current weak state of these institutions and the modes of interaction between the Forest Departments and the panchayats. Moreover, neither the dense fuelwood production or timber-oriented models of plantations which were widely used were specifically directed to addressing soil and moisture conservation concerns.

1.19 These unrealistic expectations regarding the motivation of farmers, the strength of local panchayat institutions, and the ecological benefits of timber models need to be laid to rest. Along with them must go previous macro-analyses of the supply and demand for forest products which overemphasized the fuelwood gap and failed to place social forestry within an overall land use and resource production context.

1.20 As the midterm review found, the original objectives are being met to a reasonable extent by the project--but not in the ways originally conceived for social forestry programs. A new strategy -- based on those elements of the NSFP which are succeeding -- is required which incorporates the objectives of production, incomes and equity, and environmental rehabilitation in a holistic perspective.

1.21 As set out in this report, such a strategy would allocate the responsibility for producing short rotation wood for the industrial and commercial requirements of the country largely to private farmers. This would allow the more remote reserve forest estate to confine itself to long term wood production with limited local usage and increased environmental benefits. The subsistence requirements of poor rural residents, to the extent they are not met through the byproducts of farm forestry, could then be accommodated within the public wasteland plantation programs on community, revenue, and degraded government forest lands by using environmentally sustainable technologies.

1.22 Action Plans for each State have been developed to implement this strategy in the remaining project period. These plans call for:

1. placing private farm forestry on a self-sustaining and equitable basis. This would be done through the continuing privatization of seedling production, removal of subsidies (particularly for larger farmers), removal of legislative constraints to tree harvesting and marketing, diversification of agroforestry technologies, and increases in agroforestry research, extension, and marketing support;

2. introducing new technologies for public forestry on community and wasteland plantations. These would incorporate environmental and socio-economic concerns by using wider spacing, increased sowing of trees and shrubs for low cost, continuous fuelwood supply, contour furrow planting and increased grass and legume production to provide fodder and increase soil and moisture conservation;

3. focusing experimental programs, such as tree tenure for the poor, community management and private wasteland planting, through pilot projects which explore alternate land use arrangements, and reducing or eliminating experiments which show little promise;

4. greatly expanding technical research and planning capabilities through contractual arrangements with State Agricultural Universities, increased training, workshops and technical assistance; and

5. increasing women's involvement through increased recruitment of women forestry staff; and improving coordination with Non-Government Organizations through GOI and State initiatives.

ORGANIZATION OF THE REPORT

1.23 The final report consists of three sets of documents: Part I contains the overall report, accompanying tables which show the financial implications of the new directions, and the Summary Action Plan; Part II consists of detailed State Subproject Aide Memoires, accompanying tables and Action Plans; and Part III contains the Technical Annexes on special issues, including: Economic Issues; Environmental Impact; Legislative Issues; Monitoring and Evaluation; Non-Government Organizations; Public Forestry Benefits, Management and Planning; Technology and Research; Women's Participation in Project Activities and Workplan: Midterm Review Methodology.

CHAPTER TWO

PROGRESS TOWARDS PROJECT OBJECTIVES

PROJECT OBJECTIVES AND COMPONENTS

2.01 The National Social Forestry Project is being implemented by the States of Gujarat, Himachal Pradesh (H.P.), Rajasthan, and Uttar Pradesh (U.P.), with assistance from the World Bank (IDA Credit No. 1611-IN), USAID (Project No. 386-0495), and the Government of India's Ministry of Forest and Environment. The project was appraised at US$ 327.8 million, of which IDA's share is US$ 165 (SDR 166.1) M, USAID's share is US$ 80 M, and the GOI and State Governments' share is US$ 82.8 M (equivalent in Indian rupees). The project was designed for a five year period, commencing in 1985, with a project completion date of 1990.

2.02 As set out in the project documents, the overall objectives or goals of the project are to:

1. increase the production of forestry products (fuelwood, small timber, poles and fodder) to help meet national and local deficits;

2. increase rural incomes, employment and equity, particularly opportunities for the poor and landless; and

3. reduce soil erosion and improve the environment.

4. As a supportive fourth objective, the project has as its purpose the strengthening of the capacity of public and private institutions, particularly the State Forest Departments (or Social Forest Departments), to meet the overall objectives in a sustainable way.

2.03 To achieve these objectives, the project supports a variety of tree planting programs on private, community, and public land with an overall target of 708,983 hectares, equivalent to a little over one billion trees. As shown in Table 2.01, 65.9 percent of this planting target consists of seedling distribution and sales to private farmers for planting on their own land (farm forestry) with an additional 6.7 percent devoted to subsidized private planting programs. Wasteland plantations on community and government land account for 24.4 percent of the target, and the remaining 3 percent consists of trial tree tenure programs for the poor and landless.

Table 2.01: PLANTATION PROGRAMS
(Equivalent hectares in thousands)

Plantation Category	U.P.	Raj.	Guj.	H.P.	Total	Percent of Total
A. Agroforestry (Private Land)						
Farm Forestry (Seedling Distribution)	134.0	80.0	200.0	53.0	467.0	65.9%
Private Wasteland Planting	-	-	30.5	13.0	43.5	6.1%
Improved (Grafted) Orchards	-	4.0	-	-	4.0	0.6%
B. Tree Tenure, Poor+Landless (Govt. Lands, Beneficiary Managed)						
Strip Plantations	1.2		-	-	1.2	0.2%
Household/Group Farm Forestry	11.0	7.5	-	.8	19.3	2.7%
Arjun Plantations	1.0	-	-	-	1.0	0.1%
C. Comm. Wasteland Plantations (Community Lands, Panchayat Managed)						
Community Woodlots (Rainfed)	14.0	5.0	20.0	41.0	80.0	11.3%
Community Woodlots (Irrg.)	-	-	5.0	-	5.0	0.7%
Tree Fodder Plantations	-	-	10.0	-	10.0	1.4%
D. Govt. Wasteland Plantations (Govt. Land, Govt. Managed)						
Rehabilitated Degraded Forests	-	20.0	30.4	5.0	55.4	7.8%
Strip Plantations	.7	4.3	15.0	-	20.0	2.8%
Fuelwood Plantations	-	-	2.5	-	2.5	0.4%
Total Plantations	161.9	120.8	313.4	112.8	708.9	100%

2.04 The project also includes financing and technical assistance to support the strengthening of the capacity of the State and Central Governments to implement the project's plantation programs and to build private capabilities for continuing tree planting. In addition to substantial infrastructure expansion (buildings and vehicles) supported by IDA, the project is financing training for both staff and farmers, development of monitoring and evaluation capabilities, increased extension activities, research, technical assistance to each of the States, and a Central Support Unit, established by the GOI in the Ministry of Environment and Forests. (Details of the overall project financing are provided in Chapter 5.) Table 2.02 presents the summary of total projected costs at the time of appraisal, by source of funds.

Table 2.02: PROJECT FINANCING 1/

Subproject	Local Support		IDA	USAID	TOTAL
	Source	Amount			
			US$ M		
Gujarat	GOG/GOI	16	62	31	109
Himachal Pradesh	GOHP/GOI	11	24	12	47
Rajasthan	GOR/GOI	8	17	9	34
Uttar Pradesh	GOUP/GOI	46	61	27	134
GOI Support Office	GOI	2.5	1.5	1	5
Total		83.5	165.5	80	329
Percentage		26	50	24	100
Local Costs		82.4	160.0	79.0	321.4
Foreign Exchange		0.5	5.0	0.9	6.4

1/ The figures in this table include contingencies.

OVERALL PHYSICAL AND FINANCIAL PROGRESS

2.05 During the first three seasons of project operations, planting targets are reported to have been substantially met, particularly with respect to private farm forestry. Approximately 500 million seedlings, approximately equivalent to 325,437 hectares, have been planted by farmers on their private lands -- exceeding the already high target by 18 percent. Another 38,610 ha of community wastelands and 38,816 ha of forest wastelands have been planted which represent 68 percent and 88 percent of the project targets respectively. Lumping together the smaller, more experimental components such as private wasteland planting, tree tenure programs, and special fodder and fruit plantations, a total of 16,840 ha, or 56 percent of the project target, has been achieved.

2.06 Since seedling distribution in Gujarat -- where small cane baskets containing large numbers of bare-root seedlings represent half of all distribution -- is the only instance where targets have been actually exceeded, Table 2.03 presents the results both without (a) and with (b) the overachievement in Gujarat in order to obtain a more representative picture of achievements to date. Without the Gujarat overachievement, quantitative physical progress as a whole stands at about 80 percent of target, a figure which still amounts to an impressive half a billion trees planted. Although survival rates appear to average 50%-60% for private planting and 60%-70% for public plantations, few surveys have been conducted and there are a number of qualitative issues related to this achievement which are discussed later.

2.07 The small shortfall in physical achievements is directly related to the shortfall in budgets allocated by the State Governments. Against an anticipated expenditure of Rs. 2,066.6 million, the States actually allocated a total of Rs. 1,482 million, approximately 25 percent less than planned. Continuing drought has been partly responsible for this deficit which the States expect to be overcome during the remainder of the project period. However, since both IDA and USAID finances are available only on the basis of reimbursement of actual expenditures incurred, it has not been possible for the States to exceed the limitations imposed by reduced budgets unless they are able to utilize funds from GOI schemes such as NREP and RLEGP.

2.08 Chapter 5 provides details of budget allocations and expenditures, together with projected costs and resultant savings through the remainder of the project. It is estimated that US$ 7.7 M will be unspent from the USAID project if the project is not extended for an additional year. This amount reflects not only the budgetary shortfall of the initial project years, but also the devaluation of the rupee against the US dollar. If the 1990 plantation year is included in the IDA disbursement schedule (which extends five months beyond that of USAID, to December 1990), it is projected that the disbursable expenditures will exceed the credit amount by US$ 4.6 M.

Table 2.03: TREE PRODUCTION ACHIEVEMENTS 1/
(To March '88 -- in hectacres)

	Target	Achieved	Percentage
Private Forestry	274,401	229,371 (a) 325,437 (b)	84% 118%
Public Forestry			
- Degraded	41,850	38,816	93%
- Village waste/ common land	56,450	38,610	68%
Experimental			
- Tree tenure/ Private wasteland	29,873	16,840	56%
Total	402,574	323,637 (a) 419,703 (b)	80% (a) 104% (b)

1/ (a) Without the overachievement in Gujarat
(b) With the overachievement in Gujarat

AGROFORESTRY (PRIVATE FARM FORESTRY)

2.09 As indicated by the overall physical achievements, tree planting by farmers on their private lands continues to exhibit phenomenal growth. While there remain many districts in each of the States where farmer adoption has remained low or moderate, most of the districts of western U.P., central Gujarat, eastern Rajasthan, and southern H.P. have transformed their farms and cropping systems to include large numbers of trees despite the recent drought. Farm forestry has emerged as the most significant change brought about by this and previous social forestry projects with substantial impact on the future of land use, public forest production and management, and the provision of forest products to both industry and poor rural populations.

2.10 A variety of tree planting patterns can be found in the project States. Existing monitoring reports and surveys are still limited and contain considerable discrepancies, as selected data presented in Table 2.04 show, but nevertheless it is clear that farmers are planting trees on all types of land.

Table 2.04: PLANTING ON DIFFERENT CATEGORIES OF LAND IN GUJARAT AND HIMACHAL PRADESH (In percentage of seedlings)

Himachal Pradesh (tentative figures)
(By % of farmers taking seedlings)

Category of Land	High Altitude	Middle Alt.	Lower Alt.	Weighted Total
Previously Fallow	17	39	32	29
Previously Cropped	2	1	0	1
Boundaries	83	73	60	72
Homestead/Houselot	0	5	1	2

Gujarat
(By Size of Farmer's Holding/% of Seedlings)

Category of Land % of	Distributed 0.2-2 ha	2-5 ha	5+ ha	All ha.	Farmers
Previously Fallow	28.7	33.9	41.3	36	9
Previously Cropped	11.8	27	22.6	23	9
Boundaries	43.3	32.9	29.1	34	56
Homestead/Houselot	16	6.3	2.9	7	26
All Land	100	100	100	100	100

2.11 Most of the trees planted on previously cropped land, previously fallow land, and on field boundaries consist of fast growing, short rotation species intended for the commercial pole, pulp, small timber, and fuelwood markets. Over half of these trees are planted on field boundaries in a form of agroforestry, while the remainder are planted in blocks on degraded agricultural land or previously cropped land (including irrigated land -- which is less than 23% in Gujarat and less than 1% in H.P.). The vast majority of these trees consist of Eucalyptus and to a lesser extent Poplar species.

2.12 Farmers in some areas such as H.P., however, are increasingly planting a number of long rotation multipurpose (fodder, fuel, fruit, katha, timber, etc.) trees, particularly around homesteads. In both cases, increased farm income is the driving force, although securing tenure and decreasing managerial burdens continue to motivate certain categories of landowners (e.g., absentee farmers, businessmen, or salaried wage-earners with limited family labor). Although reliable data are not available, field observation suggests that there is a trend towards increasing agroforestry type planting, including both field boundary planting and intercropping with agricultural and horticultural crops.

2.13 In terms of project objectives, it is evident that the total production from this private planting is substantial. Using a relatively conservative estimate of 5 cubic meters mean annual increment per hectare (equivalent to 0.05 cubic meters per tree at 40% survival over six years) the approximately 167 M trees planted annually (approximately 110,000 ha) yield an annual production from the project of 3.4 million cubic meters by year six.

2.14 This production from the four project States -- which does not include non-project production in farm forestry in these States -- is equivalent to approximately one-tenth of the entire nation's current recorded demand for industrial wood products or one-quarter of its pulp wood requirements. Although the industrial and commercial demand for wood products cannot be entirely met from the short rotation species currently being grown by farmers, it would now appear that the major portion of the nation's commercial requirements, estimated at 35 million cubic meters, could now be met from this source.

2.15 The economic benefits derived from farm forestry are complex and inadequately documented. Income derived from tree growing depends on a variety of factors including the biophysical conditions, such as soil and moisture availability; the type of planting and management, including species, spacing, inputs provided, and pruning and thinning; the costs of production, including effects on adjoining crops and production foregone; and the market prices and mechanisms.

2.16 Many instances could be observed where farmers were obtaining less than optimum returns due to inappropriate species choices, overly close spacing, lack of thinning and pruning, and inappropriate intercropping practices. In some cases this has resulted in disillusionment. However, most farmers are obtaining substantial returns from tree cropping which continue to offset the costs associated with reduced crop yields.

2.17 In regions of intensive tree planting, market rates for short rotation Eucalyptus and other pole species have dropped from their initially high levels to more competitive rates. As prices have dropped, the wood has become competitive for alternative uses in new markets. For example, retail prices for poles in western U.P. have dropped about 20 percent, from Rs. 500 per 1,000 Kg. to Rs. 400. At this lower rate, wood is an economically viable substitute for coal and is increasingly being used for commercial fuelwood in brick kilns and sugarcane factories.

2.18 The number of retail outlets has increased dramatically, and a large number of intermediary contractors visit villages to procure lots of standing trees. Farmers generally obtain approximately 50% of the retail rates. This figure is not overly high, given the costs of felling and transport involved, but one that could nevertheless be improved through better dissemination of price information, the elimination of costly harvesting and transport restrictions, some longer term marketing studies and the coordination of markets. If prices were to drop further, it is likely that political pressures would mount to establish State procurement mechanisms -- a move that is already underway in U.P.

2.19 The degree to which farm agroforestry is meeting equity objectives is controversial. Environmental activists have charged that farm forestry is primarily undertaken by large and absentee farmers, that it reduces rural labor use, and that it does not provide the fuelwood and fodder requirements needed by women and the poor. The available evidence presents a mixed picture which depends considerably on the type of planting model used (e.g., block plantation on irrigated land, block plantation on degraded land, boundary plantation, homestead plantation, intercropping, etc.). It must also be recalled that the production objectives of private farm forestry differ from those of public forestry where the expenditure of more government funds per hectare is intended to benefit the poor directly.

2.20 Farm forestry has not so far been directed towards providing fuelwood and fodder resources for either the grower or the nearby poor households (except in H.P.). Most farmers are growing trees for the commercial cash market. However, to the extent that this substitutes for the supply of these products from public forests — of which there is increasing evidence -- it allows more public resources to be made available for the poor collectors. Furthermore, if the present trends towards greater species diversification and increased agroforestry (both boundary planting and intercropping) continue, it is expected that the amount of by-products for local use will also increase.

2.21 Farmers in some areas are already starting to increase the pruning of lower branches to reduce shade and increase trunk value, an operation which produces considerable branch wood and leaves for the laborers involved. The substantial increase in pole wood availability in local markets has also considerably reduced the cost of cheaper construction timber and furniture and spawned new processing industries -- increasing both employment and the availability of these products to the poor.

2.22 As with other agricultural innovations, larger scale farmers are disproportionately involved in tree planting. Farm forestry is not a means of redistributing the land and power resources in rural India. However, in the many areas where tree planting has assumed high proportions, there is increasing evidence of participation by small farmers. Table 2.05 presents some of the data available from different surveys in Gujarat and H.P. showing that, although statistics differ by survey and State, small and medium farmers are significant participants in tree planting activities.

Table 2.05: SEEDLING DISTRIBUTION IN GUJARAT AND HIMACHAL PRADESH 1/

GUJARAT

Distribution by No. of Farmers	0 - 1 ha Marginal	Both	1-2 ha Small	2-5 ha Medium	5+ ha Large	All Types
Sample Survey (1985)	29	53	24	30	17	100
FAO Report (1985) 2/	18	37	19	36	27	100
M&E data 1985			55	29	16	100
M&E data 1986			57	25	18	100
No. of Seedlings						
M&E Data 1985		45		31	24	100
M&E Data 1986		37		32	31	100
Sample Survey (1985)		27		27	46	100

HIMACHAL PRADESH

Distribution by No. of Seedlings						
M&E Data 1986-87	59	78	19	17	6	100 (rounded)

1/ A comparison of figures in the FAO Evaluation of Gujarat SFP, Gujarat FF Sample Survey by SFD and regular monitoring and evaluation data collected by the FDs in both States.

2/ The FAO survey was conducted for a small, statistical sample from the nursery registers. The researchers found that the average holding size for each of these categories was reported as much larger by the farmers during the interview than reported at the nursery site in the register. The averages were: Marginal: 2.67 ha., Small: 2.68 ha., Medium: 7.07 ha., Large: 9.99 ha. These figures therefore are adjusted in light of the farmer's own reporting of his holding size, not the nursery register figures for the selected sample.

2.23 Since farm households have the right to make their own decisions as to what to plant on private lands, equity only becomes a major issue if (a) public funds are being used disproportionately to subsidize large farmers (as they are in irrigation and subsidized fertilizer supply) or (b) smaller farmers do not have access to seedlings and other necssary inputs. The former concern has been addressed in the project through a policy of reducing the subsidy in seedling pricing and the latter through programs to increase the number of decentralized farmer run (kisan) nurseries.

2.24 Considerable progress has been made on both of these policies. U.P. has increased the cost of seedlings to 30 paise, and other States are slowly implementing plans to reduce or eliminate the number of free seedlings and increase their price. In U.P., this policy has had dramatic results: an estimated 2,000 purely private nurseries have been spontaneously established by farmers to cater to the growing demand. The U.P. FD has also sponsored a study of seedling pricing which indicates that a small further increase in price to reflect the full cost of production would cause only a marginal decrease in demand (Institute of Cooperative and Corporate Management, Research and Training, Impact of Prices on Seedling Distribution, 1988).

2.25 All of the States have substantially increased the number of decentralized kisan (farmer) and school nurseries established with guaranteed buy-back arrangements with the FDs. In Gujarat, 49 percent of all seedlings are now produced by farmers and schools, an increase of 25% since the start of the project. Although data are not available, it is likely that the availability of seedlings nearby has greatly increased the number of seedlings planted by small farmers. However, the maintenance of buy-back arrangements are administratively more expensive than the promotion of purely private nurseries.

Table 2.06: GROWTH OF DECENTRALIZED NURSERIES
(Number of nurseries)

Year	Gujarat	U.P.	Rajasthan	H.P.
1985/86 (Kisan)	1753	252	Nil	NA
1985/86 (School)	564	153	Nil	NA
1986/87 (Kisan)	3604	305	40	NA
1986/87 (School)	603	291	Nil	NA
	Seedlings in Millions			
1985/86 (Kisan)	31.87	14.257	Nil	NA
1985/86 (School)	9.90	1.216	Nil	NA
1986/87 (Kisan)	91.04	9.308	0.35	NA
1986/87 (School)	14.71	1.766	Nil	NA
	Percentage of Seedlings Produced			
Seedlings	22.5%	16.5%	NA	0.0%
Nurseries	48.6%	16.8%	NA	19%

2.26 The environmental effects of farm forestry are also mixed and closely related to the specific site and technology employed. There are unquestionably sufficient examples of the inappropriate use of Eucalyptus as a monocrop in semi-arid areas, where competition for water and the need for soil enhancing treatments are high, to fuel the criticism publicized in the press. However, there are a large number of counter examples where water tables are high (e.g., western U.P), or where previous crops required greater amounts of water (e.g., sugarcane or tobacco in Gujarat). Here the net effect of Eucalyptus planting is either positive or neutral in relationship to the environment.

2.27 There is little question that additional emphasis needs to be placed on increasing the diversity of species available to farmers with demonstrated postive economic and environmental returns. Better planning and information are also required to match different species to different sites and agroforestry conditions. However, all crops use soil and water nutrients for growth, and the fact that Eucalyptus is particularly efficient in its use likely accounts for its continuing high popularity with farmers.

2.28 As farmers increasingly turn to various agroforestry technologies, the need to increase their knowledge on the short and long term biophysical (and economic) interactions between different tree species and agricultural crops and on soil and water regimes has become urgent. Farmers are increasingly concerned with the relative degree of competition or complementarity involved between trees and adjacent crops. Positive shelterbelt and temperature reduction effects need to be evaluated in relationship to potentially negative shade effects and competition for soil nutrients and water. This must then be put within an overall context of net economic costs and benefits and nutrient replacement costs. At present, none of the State FDs know or can provide adequate guidance on agroforestry technology, environmental effects, or silvicultural techniques such as root pruning through boundary trenching.

2.29 This lack of adequate technical knowledge and guidance is the principal constraint facing farm forestry through the remainder of the project and beyond. While felling and transport regulations are currently major obstacles, they are relatively easily resolved. Developing the research and extension expertise necessary to address the complex questions related to the introduction of agroforestry as a major new land use on private lands will require commitments beyond the life of the project. It is a new field for both foresters and agriculturalists and one which will require substantial efforts by both if the tremendous production potential of farm forestry -- which has already revolutionized the countryside and which could revolutionize public forestry -- is to be sustained.

PUBLIC FORESTRY (COMMUNITY WOODLOTS AND WASTELAND PLANTATIONS)

2.30 For the purpose of this review, community woodlots and the various components of wasteland plantation (rehabilitation of degraded forest lands and strip plantations along roads, railroads and canals) are being dealt with together. The major reason for this is that despite differences in the land tenure on which they are planted and differences in desired management over time, there is in fact little difference between them at present. The vast majority of these plantations are almost wholly departmental efforts in design, execution, and management and differ little in the technology or methods applied within similar ecological areas. They should therefore be evaluated in terms-of the actual objectives they serve rather than in terms of the theoretical differences between them, although these remain important in planning the future of the project.

2.31 Plantation models currently employed by the project States are, to some extent, meeting the objectives of wood production, rural incomes, equity, and environmental rehabilitation. However, the lack of appropriate management and technology appears to have resulted in fewer benefits to the local people than anticipated during project design, and considerably fewer benefits to the environment than is potentially possible.

2.32 Monitoring surveys and departmental reports indicate that average survival rates on most plantations are, with replacement planting, over 60 percent -- a satisfactory rate given the refactory conditions and heavy population pressure. Growth and yield rates are generally not available, although limited data from the harvest of 30 woodlots planted under the earlier project in Gujarat suggest that final wood harvests (averaging 1.8 mt MAI/ha.) could be slightly less than anticipated in the project (2.4 mt). Grass harvests (.26 mt/ha/yr) were slightly higher than anticipated project yields in the semi-arid conditions of Gujarat (.20 mt/ha/yr), and much below those achieved in better conditions (i.e., 4.0 mt/yr in H.P.). There is little question that the plantations could be made more productive through improved technology, including moisture conservation, better quality seeds and seedlings, and better planning.

2.33 The distribution of benefits from public forestry is highly variable and still somewhat speculative, depending on the site, the plantation model employed, the management, and the State. Table 2.07 shows the average anticipated benefit distribution at the time of project design, calculated by determining the farmgate value of all products harvested. A comparison of these figures with the Gujarat data shows that although the average FD share for cost recovery remained around 30%, the benefits to the panchayat through auctions and concessionary sales were higher than anticipated but lower to users because of lack of management for intermediate products.

2.34 Field observations and experience from other projects suggest that where panchayats are allowed access to final harvests, they tend to prefer auctions to free distribution. In the case of government wasteland plantations and community woodlots, where benefit sharing agreements have not been reached, the panchayat share is likely to go to the Forest Department.

Table 2.07: PLANNED PUBLIC PLANTATION BENEFIT DISTRIBUTION

A.	% To Village Woodlots/State	% To Users	% To Panch	% To FD	Be Sold
	Gujarat	35%	33%	32%	65%
	U.P.	46%	18%	36%	36%
	Rajasthan	27%	73%	-	73%
	H.P.	56%	32%	12%	55%
B.	Degraded Forests				
	Gujarat	11%	-	89%	89%
	U.P.	83%	-	17%	17%
	Rajasthan	26%	-	74%	74%
	H.P.	72%	-	28%	28%

2.35 The reduced share of benefits directly flowing to poor users of community woodlots and government wasteland plantations is an issue of considerable concern for the remainder of the project. There are strong arguments, voiced by many villagers during the midterm review, for directing most of the share of very small village woodlots towards the local panchayat or villages (of which there are many, especially in U.P. and Gujarat). In larger woodlots and RDFs, however, the equity objective of providing subsistence fuelwood and fodder to the poor can be better served by increasing the users' share of benefits.

2.36 At present, this is constrained by the widespread use of traditional, timber oriented models and management systems in all forms of public forestry which limit intermediate yields in order to maximize final harvests. Together with the general lack of effective community management on woodlots (itself partly a function of the technical orientation employed by the FD), the intended potential for user benefit collection remains only partly realized.

2.37 There are, however, a number of examples where villagers are obtaining larger than expected gains. These include the collection of grass and a variety of minor forest products (e.g., fruits, flowers, bidi leaves, pods, seeds, etc.) as well as deadwood, leaves, and branchwood from pollarding and coppicing species (e.g., Prosopis spp. and Acacias) which provide pointers towards a future strategy.

2.38 The principal income benefit presently received by the poor is through the massive employment generated by public forestry. Table 2.08 estimates the total number of person days generated through 1987/88 by public forestry and nursery production (a part of which is in support of private farm forestry). Although the estimated percentage of women employed varies from around 20% in H.P. to over 50% in Rajasthan, the creation of employment nearby to villages increases the opportunity for women to participate.

Table 2.08: ESTIMATED EMPLOYMENT GENERATED
(In million person days)

YEAR	GUJARAT	U.P.	RAJASTHAN	H.P.	TOTAL
1985/86	5.625	2.936	0.970	1.835	11.366
1986/87	5.017	3.344	2.060	2.540	12.961
1987/88	5.725 (up to Feb.88)	3.377 (up to Feb.88)	1.627* (up to Oct.87)	2.226	12.955
Total	16.367	9.657	4.657	6.601	37.282
Estimated % of women's participation	30%	30%	50%	20%	

Note: Person-days for Gujarat and H.P. based on status reports. Person-days for U.P. and Rajasthan estimated on expenditures based on reimbusement claims received.

*Fewer person-days in 1987/88 are due to reduced physical achievements because of drought.

2.39 While not stressed during the project design, it is evident that the degree of the rehabilitation of the environment being achieved by public forestry is considerably less than possible or desirable. At present, some positive environmental effects have been achieved through closure of plantation areas, during which time grass cover increases and sheet erosion diminishes. However, the lack of specific measures designed to ameliorate soil and moisture loss frequently results in a return to high sheet erosion following the early closure of the canopy and the reintroduction of grazing.

2.40 In addition, little attention has been paid to capturing rainwater in order to increase productivity. The general use of traditional timber oriented models has often done little to increase the diversity of species planted or naturally regenerated. However, to the project's credit, a greater diversity of species -- including a marked reduction in the use of Eucalyptus -- is presently being planted compared to before the project. In addition, promising initiatives for incorporating soil and water conservation measures have been taken with the use of gradonis (bench terraces) in Gujarat and box trenches in Rajasthan, although vegetative contour bunding has not been practiced at all.

2.41 The institutional sustainability of public forestry remains a problematic issue which received considerable attention during the midterm review. Within previous conceptions of social forestry, community woodlots have been predicated on the notion that these plantations would be turned over to the panchayat for continuing management and eventual replanting. A number of factors have led to very limited success in mobilizing panchayat management and community participation. Among these are: heavy population pressure and the small size of many woodlots; lack of financial and organizational resources within the panchayat; heavy competition from private and public sources for limited panchayat land; traditional village (sub-panchayat units) rights to grazing lands; lack of government or political support for panchayat institutions; inadequate extension; cautious FD attitudes; and inappropriate technical models.

2.42 The net result is that out of the thousands created, only a handful of woodlots have been turned over to panchayats, and the majority of them continue to be managed by the FDs. In many instances, villagers agree with the FD that this is the only viable institutional arrangement. Since it is the existing reality, departmental management must be considered as the likely alternative for the future, at least in areas of heavy population pressure.

2.43 Paradigms of viable community management, at least for larger forest areas, can, however, be found in the project States. The 70 Cooperative Forest Societies founded in the 1940s in the Kangra area of H.P. cover over 23,500 ha. Although their record in forest management is mixed and their registration was suspended in the 1970s, many of them functioned well and offer evidence of community management potential. Traditional forest and grazing management elsewhere in H.P. and Rajasthan also highlight the possibility of community management as another alternative to be more intensively explored if more workable systems can be instituted.

OTHER FIELD ACTIVITIES (EXPERIMENTAL PROGRAMS)

2.44 A variety of smaller, more experimental field programs supplement the three main components of private farm forestry, community woodlots and government wasteland plantation. These are listed in Table 2.09.

Table 2.09: OTHER FIELD ACTIVITIES
(Hectares in thousands)

Activity	U.P.	Raj.	Guj.	H.P.	Total
Pvt. Wasteland Planting	-	-	30.5	13.0	43.5
Grafted Zizyphus Orchards	-	4.0	-	-	4.0
Arjun Tree Tenure 1/	1.0	-	-	-	1.0
Irrigated Woodlots	-	-	5.0	-	5.0
Tree Fodder Plantations	-	-	10.0	-	10.0
Fuelwood Plantations	-	-	2.5	-	2.5
Total	1.0	4.0	48.0	13.0	66.0

1/ Tassar silk production on Terminalia arjuna.

2.45 The shared features of these programs are that they started with this project, are generally small, provide subsidized inputs and are targeted to poor beneficiaries or for eroded lands. They also tend to share a set of common problems. In general, these programs have had difficulty getting started and suffer from inadequate attention and focus, lack of land availability, inter-departmental difficulties in identifying beneficiaries, legal lacunae and ambiguities, and other administrative problems. They also suffer from the danger of serving as a disincentive to households not selected as beneficiaries under the regular farm forestry program.

2.46 Despite the difficulties encountered so far, some of these programs have shown promise for showing alternative solutions to the difficult objectives of equity (shifting resources towards the poor) and environment (rehabilitating private land). However, much more selective and focused efforts will be required to enable such promise to be demonstrated in the remainder of the project.

2.47 Private wasteland planting includes programs in Gujarat and H.P. intended to provide the means for rehabilitating contiguous degraded private lands owned by poor farmers without the means for planting on their own. In practice, it has been difficult to select farmers and lands which meet the criteria, particularly given the heavy workload of forestry field staff. This has resulted in the ad hoc selection of both beneficiaries and areas. Legal arrangements have not been fully clarified and the long term administrative burden for the Forestry Department which, under some arrangements, would have to recover costs 25 years hence, is somewhat frightening. In sum, these programs appear to be having limited success in meeting their equity and environmental objectives and as currently structured, are likely serving as a disincentive to other farmers.

2.48 Tree tenure programs in U.P., Rajasthan, and H.P. are intended to provide landless and marginal farmers with leased access to land to plant trees for their own benefit. As such, they constitute a form of landtenure distribution and suffer from many of the same problems as other land reform programs. Where the program was intended to be implemented on government forest land (strip plantations in U.P., unclassed forests in H.P.), the program has been held back by lack of permission from the GOI to alienate forest land, even for tree growing.

2.49 In the more common case of program implementation on revenue or panchayat land, the identification of beneficiaries and land actually available has been severely constrained by inter-departmental procedures (i.e., land and beneficiaries must be identified by the Revenue Dept.), illegal encroachment, and competition from other programs seeking the same land (including community woodlots and land reform). Although this program is still new and can be expected to encounter teething problems, the results to date have been meager.

2.50 Other special plantation programs such as the irrigated woodlots, fodder plantations, and fuelwood plantations in Gujarat have encountered problems of a more technical sort. Neither the irrigated woodlots nor the fodder plantations have proven viable as currently designed. The fuelwood plantation is too far from the urban centers it is intended to supply and is also not considered viable. However, the improved (grafted) Ziziphus fruit plantation in Rajasthan is progressing well and receives considerable popular support.

2.51 The fuelwood saving stoves and crematoria programs in Gujarat and H.P. present a mixed picture. While improved crematoria are well received, traditional caste restrictions limit the people that can use them in low population villages. Field experimentation has also shown that the somewhat more costly metal models have considerably greater life spans. Improved woodburning stoves (chulhas) programs, on the other hand, suffer from inadequate attention, haphazard beneficiary selection, inappropriate technology, and inadequate extension. Given the fact that far larger programs for improved stoves have been now instituted by the Department of Non-Conventional Energy through the State Rural Development Departments, the rationale for including this component in the project has diminished considerably, and the improved stove program is being dropped.

INSTITUTIONAL DEVELOPMENT AND TECHNICAL SUPPORT

2.52 Progress in developing the capacity of States and GOI to support, manage and monitor the field programs described above has been slow, but important incremental gains have been achieved which provide a basis for improved project implementation in the remainder of the project. Most States have made considerable progress in staff recruitment, in-service and farmer training, and monitoring and evaluation. Also, some promising initiatives in microplanning have been taken in some States.

2.53 Improvements in extension and research have tended to lag behind, and very little international training and technical assistance has been used so far. The Central Support Unit of the GOI has been the most problematic -- having spent no project funds to date -- although it has played an important role in helping to establish a computerized monitoring and evaluation system and in encouraging decentralized farmer-run (kisan) nurseries. The overload on existing Forest Department staff, due to the substantial increases in work generated through GOI poverty and employment schemes (RLEGP, NREP, DPAP, etc.), has inhibited improvements in management and is largely responsible for the lack of more progress.

2.54 Rajasthan and H.P. have been mostly successful in recruiting new staff required by the project. U.P., however, has experienced long delays due partly to the lack of administrative clearance and partly to budgetary shortfalls. In all States, specialist non-forester positions, such as social scientists and statisticians for monitoring units, have remained unfilled, although H.P. has made commendable progress in recruiting women as Forest Guards, a strategy they intend to accelerate.

2.55 Infrastucture development has generally fallen behind targets due primarily to budgetary shortfalls. Although 81% of the incremental staff have been hired, only 38% of the civil works have been constructed and 20% of the vehicles procured. While delays in building construction affect staff morale, they are not directly related to field achievements. Delays in vehicle procurement, however, severely hamper extension and supervision efforts. Detailed tables on staff recruitment and infrastructure development are provided in each State Aide Memoire.

2.56 As shown in Table 2.10, the States have made considerable progress in providing in-service staff training as well as extension farmer training. In most cases, new curricula have been designed to address the needs of social forestry which, while still requiring improvement, are substantially better than those available before.

Table 2.10: STATUS OF TRAINING

Year	Staff		Farmer	
	Target	Achieved	Target	Achieved
1985/86	1,354	637	20,480	110,556
1986/87	1,415	2,836	24,140	151,950
1987/88	1,427	1,746	24,140	122,620
TOTAL	4,196	5,219	68,760	385,126
PERCENT ACHIEVED		124%		560%

2.57 Gujarat, and to a lesser extent the remaining States, have made some progress in relevant research, a component which was not stressed during project design. Forest Department capacity for in-house research is, however, generally limited and unlikely to increase greatly. Under these circumstances, the most promising developments in research are the beginnings of contractual relationships with State Agricultural Universities (SAUs) and other research institutions which are potentially far more capable of conducting the kind of urgent and long term research which is required.

2.58 Through GOI support provided by the National Wastelands Development Board (NWDB), each State in India was provided with a microcomputer, software and initial training for establishing monitoring and evaluation systems based on the 'Redbook' (Operational Guide to the Monitoring and Evaluation of Social Forestry in India. Slade and Campbell et al. Rome: FAO Forestry Paper No. 75. 1986), developed with GOI/States/FAO/IBRD assistance. To varying extents, this system has been implemented in each of the States and initial surveys conducted on farm forestry and wasteland plantations. Specialized staff shortages and lack of additional training in computer use, survey methodology, report writing, and statistics have limited more extensive operationalization of the system. Experience to date has also shown that reporting formats for regular monitoring and some of the software require further simplification and modification to be useful. Progress with establishing a central GOI monitoring capability has been limited.

2.59 Heavy staff workloads and lack of specific strategies and messages have resulted in little substantial progress in improving extension capabilities. While States have continued to increase their output of publicity materials (U.P., for example, circulates a monthly newsletter to over 75,000) and creative examples of extension strategies developed by specific field staff can be found, feasible strategies for reaching the large number of farmers and villages involved have not been developed. Despite attempts during project design to ensure coordination with agricultural extension (especially the Training and Visit (T&V) system), little progress has been made on this front and little enthusiasm for such cooperation is evident on either side.

2.60 Two of the States, Uttar Pradesh and Himachal Pradesh, have instituted site/village microplanning exercises which show considerable promise in addressing some of the extension, technical, and community management shortcomings facing the project. While these efforts are commendable, present procedures rely too heavily on collecting village estimates of requirements from the panchayat leadership. Neglected are group participation and a focus on presciptions, both of which are crucial. Macroplanning at either the district or State level is mostly absent in all of the States. As a result, targets are not allocated according to requirements and sites are not selected on any systematic basis. This shortcoming will require considerable attention in the remainder of the project.

2.61 Experience with the various organizational structures adopted by the project States has demonstrated that social forestry receives inadequate attention unless there are separate staff organized for this purpose with a clear line of command to the top of the hierarchy. Both Gujarat and U.P. have established such separate Social Forestry Departments with a Chief Conservator of Forests (CCF) in charge. Since Rajasthan and H.P. started social forestry on a large scale only with this project, they basically retained their traditional territorial organization with the addition of some specialized divisions and offices for social forestry extension, planning, and monitoring and evaluation. These have proven problematic, and as is discussed in more detail in the State Aide Memoires, require further revision.

2.62 Aside from internal organization issues, the biggest problem facing the management of social forestry stems from the programmatic competition created by the funding of social forestry activities through other departments and schemes. The GOI poverty and employment schemes (NREP, RLEGP, DPAP, etc.) provide large sums of money for social forestry activities which are usually channelled both to the Forestry Departments and the Rural Development Departments. Frequently these other schemes have different norms which conflict with those in the project (e.g., they frequently pay different wage rates and have different costs per hectare), and they compete for the same community or panchayat land (sometimes resulting in two separate plantations next to each other). Moreover, they suffer from a lack of planning, technical support, and monitoring, and also place very limited restrictions on the amount of overhead they will reimburse (i.e., 5%).

2.63 Without the NSFP project support for staff, extension, research, vehicles, etc., these other programs would be even less effective than they are now. However, this extra burden, together with the conflicting procedures for field execution, severely restricts the FDs' ability to make further progress in strengthening its technical and managerial capacity to improve the quality of the program.

TABLE 2.11: COMPARISON OF NREP/RLEGP AND PROJECT FUNDING FOR SOCIAL FORESTRY FOR 1987-88 (In millions of rupees)

State	NREP/RLEGP	NSFP	%
Gujarat	170	152	112%
Himachal Pradesh	0	149	0%
Rajasthan	230	90	256%
Uttar Pradesh	220	385	57%
Total	620	776	80%

2.64 During project design, it was anticipated that this sort of inter-project and inter-state policy coordination could be achieved by the Central Support Unit located in the National Wastelands Development Board. The CSU was also intended to support the States' efforts by developing the capacity to provide central monitoring and evaluation, project formulation, training programs (including clearances for international training), inter-state workshops and information sharing, and limited technical assistance.

2.65 Limited progress appears to have been achieved in each of these areas, although the NWDB initiative in computerizing monitoring and evaluation at the State level has met with substantial success. To date no project funds have been spent, as the NWDB has carried out its activities within its existing budget. Efforts to reach agreement on the use of these funds have not been fruitful, in part because of the changing status of the NWDB, which is at present again being more closely reintegrated into the Department of Forests and Environment.

2.66 In addition to the activities of the NWDB, some technical assistance has been provided to the States through USAID, and to a more limited extent, the World Bank. This has consisted of some support in operationalizing their monitoring and evaluation system, designing and conducting special studies (e.g., seedling pricing, marketing, wood balance studies, etc.), holding workshops on microplanning for village woodlots, planning, and introducing new technical models. Regular project reviews and field visits have also provided a forum for discussion and dissemination of new ideas. However, the extent of technical assistance made available is considerably less than sought or needed by the States to carry out the project more effectively.

2.67 To date, other Non-Governmental Organizations (NGOs) have not been directly involved in the project, except in the form of women's groups in H.P. and men's youth groups in H.P. and U.P. Although many NGO groups are active in the field (e.g., Aryana Vikas Farm Trust, the Aga Khan Rural Support Project in Gujarat and Seva Mandir in Rajasthan), and a number of them have received funding directly from the NWDB, no mechanism exists to allow coordination of their work with that of the FD under the project. This situation is exacerbated by a certain degree of mutual suspicion. As discussed in detail in Annex 5: Non-Governmental Organizations, there is considerable scope for bringing together the complementary strengths of NGOs and the FDs in dealing with some of the outstanding issues facing the project.

CHAPTER THREE

FUTURE STRATEGY

INTRODUCTION: CONCEPTS AND CONTEXT

3.01 Large scale national and international support for social forestry in India and elsewhere in the world started in the late 1970s. It was based on two major premises:

1) Rural populations are heavily dependent on forest resources, particularly fuelwood, for their continuing survival; and

2) The gap between overall supply and demand for forest products, particularly fuelwood, is large and increasing rapidly, with population growth leading to the degradation of living standards, forests, and the environment.

3.02 Given this increasing supply shortage, the rural poor's need for fuelwood, and to a lesser extent fodder, was seen as the driving force behind the continuing depletion of resources, especially on common access community and public lands. (Despite the macro perspective employed, little attention was focused on the commercial and industrial requirements of the country, as these were estimated to be less than 20 percent of total demand.)

3.03 The original objectives of social forestry programs were thus directed towards meeting the rural population's fuelwood requirements by encouraging large scale community and private tree planting to increase the accessible supply of this and related wood products. Particular emphasis was placed on transforming "useless" community grazing lands into community woodlots which would be managed by the panchayat for the benefit of the wood collecting poor. Private farm forestry was cast into the same framework, whereby its goals were seen as providing subsistence fuelwood and fodder needs. Both explicitly and implicitly, community participation and the redistribution of forest products to the poor were incorporated as program goals.

3.04 Although these initial premises and objectives were substantially modified during the design of the National Social Forestry Project, their legacy continues to dominate assessments of the program and fuel public controversies over its achievements. The misconceptions underlying this original and publicly current notion of social forestry must thus still be addressed in developing a strategy for the future.

3.05 NSFP built upon the experience gained in the first seven years of social forestry and charted some new directions while still retaining many of the older approaches. Now, with a decade of experience, it is possible to further clarify the actual achievements and articulate realistic roles for social forestry within the overall land use and forest resources context of India into the coming decades.

3.06 Ten years of experience provide a number of lessons which force a reappraisal of some of the original premises and objectives of social forestry:

1) Fuelwood is a lesser priority for rural households than increased income. Farmers and communities plant trees primarily for increased cash returns -- either directly through sale of short rotation trees or indirectly through increased sale of products derived from tree planting activities (e.g., milk from increased fodder). While fuelwood is important, most farm households prefer to devote their own land to income producing trees which yield fuelwood by-products (e.g., branches, twigs, or leaves).

2) The poor derive benefits from social forestry activities primarily through employment incomes and secondarily from the collection of twigs, branches, leaves, and grass from those species and plantation models which are amenable to such collection -- whether officially 'legal' or not. Thorn trees serve the poor much more effectively than short rotation commercial species.

3) Social forestry has been no more capable of restructuring rural power and wealth systems than any other governmental agriculture or rural development program. Social forestry has not shown the capability of being more equitable than the society in which it is carried out.

4) Panchayat management of community resources is highly problematic in the institutional context of India, where the panchayats have been systematically deprived of decision making authority and financial resources in favor of more political roles. Social forestry is no more capable of singlehandedly vitalizing these institutions than it is of redistributing rural wealth. The original goals of participation must either await institutional changes from elsewhere, be redirected in new directions, or be recast into a realistic framework of continuing government management as is being done with other rural programs such as irrigation, drinking water, rural infrastruture, etc.

5) Traditional timber-oriented or dense fuelwood production technology models fail to adequately address environmental concerns (such as sheet erosion or water conservation) or meet the economic requirements of poor collectors.

6) Finally, and most importantly, social forestry must be conceived within a holistic context which incorporates all types of land and forestry production and consumption such that differing objectives can be matched to different forms of production. The rural fuelwood based supply and demand analysis, which informed social forestry originally, must be broadened to include all types of production and use.

3.07 The assessment of project progress in Chapter Two provides a basis for a new strategy by showing that:

1) production and rural income objectives are being substantially met in private farm forestry;

b) the rural poor are most benefited by employment and access to public forests which provide increased grass and branch-leaf fuel benefits through the type of technology employed;

c) environmental benefits are a function of the technology employed; and

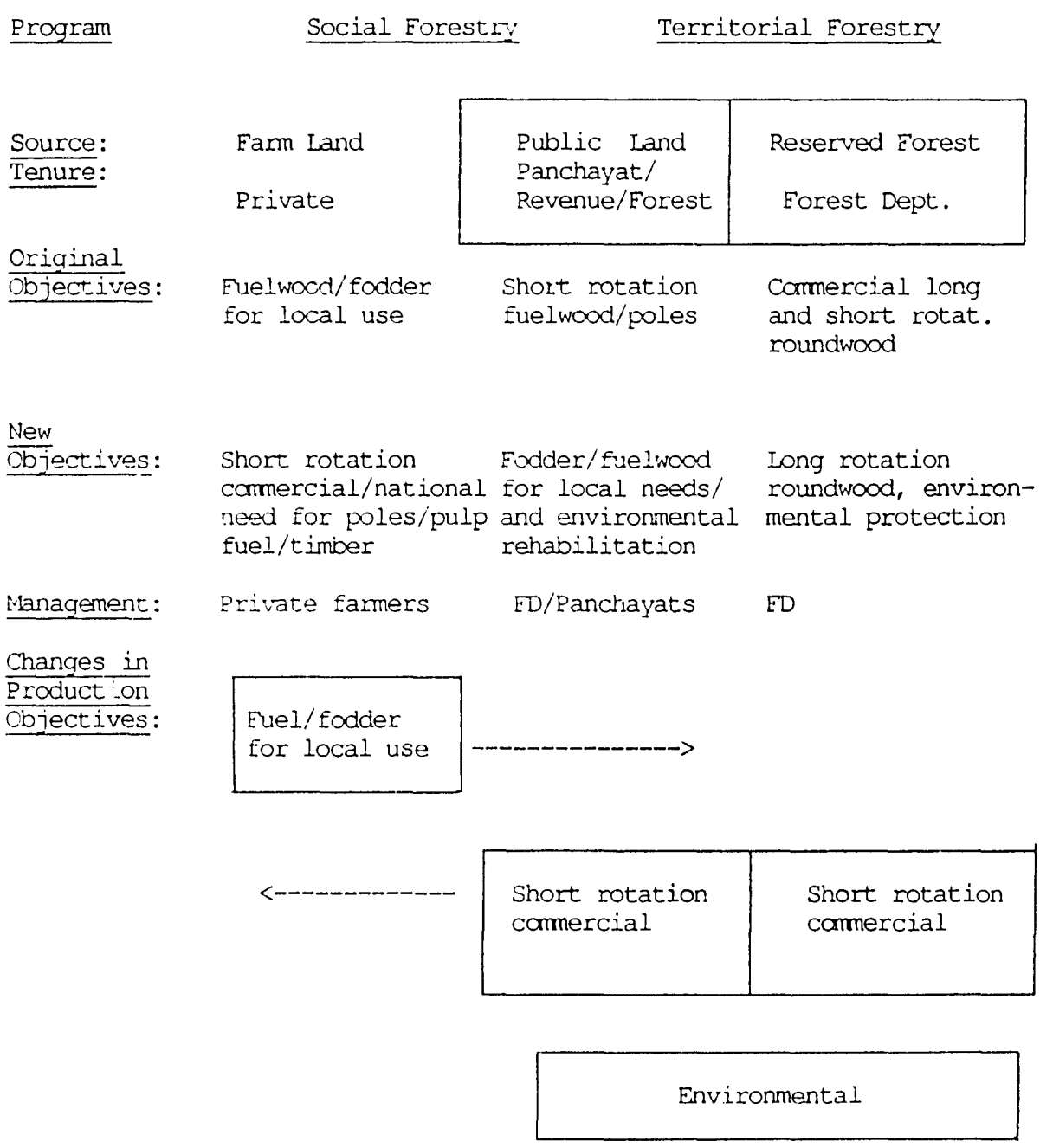
d) technology is easier to change than institutions.

3.08 These conclusions suggest that the future strategy for social forestry should be based on a major restructuring of land use and forestry production. By capitalizing on those aspects of the program which have proven effectiveness and incorporating parts of the forestry estate which have been neglected in the past, it should be possible to meet the project's objectives within a framework which considerably modifies the approach originally taken to social forestry. The principal criterion for such a strategy is that it should be sustainable: institutionally, economically, and environmentally.

3.09 As set out in Figure 3.01, this new framework shifts the production emphasis for the nation's commercial and industrial requirements of short rotation wood products from public forests to private farm forestry. While remote large reserve forests need to continue to supply long rotation forest product requirements, the substantial decrease in demand that results from shifting the burden for short rotation products to private lands would allow greater attention to be paid to the long term environmental roles of these forest lands.

3.10 These changes, in turn, would allow the large areas of public wastelands (whether owned by panchayats, the Revenue Department, or the Forest Department) and degraded forest lands, including reserved forests near villages, to serve local resource and environmental needs as a kind of buffer or 'interface forestry.' This change in resource use is illustrated by the case of Himachal Pradesh, where Eucalyptus grown by farmers in Punjab, Haryana and U.P. is being used to substitute economically for the felling of natural forests to build fruit packing cases.

Figure 3.01: FRAMEWORK FOR FOREST RESOURCE PRODUCTION AND USE



3.11 As results from this midterm review indicate, most of the elements of this future strategy are already in place, even if obscured by past rhetoric and the presence of many small targeted components. Private farm forestry is already producing wood which, by the end of the project period, could supply 10% of the nation's current commercial needs from these four States. While not yet a clear policy, the plantation of short rotation commercial species is already on the decline in public forestry. New technologies for public forestry have already been identified in some areas which would meet the new criteria for environmental rehabilitation and continuous socio-economic benefits for the poor. Institutional arrangements for self-sustaining private forestry and a sustainable, technology-driven public forestry, are becoming evident.

PRIVATE FORESTRY: SELF SUSTAINING FARMER-BASED PRODUCTION

3.12 The future strategy for supporting sustainable production of tree products on private farms is based on three major thrusts:

1) privatizing decentralized seedling production;

2) supporting marketing through extension and the removal of legislative constraints; and

3) providing technical support through increased research and development and dissemination of concrete messages.

3.13 As the example of U.P. demonstrates, raising the cost of seedlings to cover production costs once farm forestry has been widely adopted, leads to the spontaneous development of private nurseries serving farmers' needs. By encouraging the existing project policy of pricing government seedlings at cost plus a small margin for profit, not only are inequitable subsidies to richer farmers removed, but the supply of seedlings close to demand is increased.

3.14 By differentially pricing those species which are more expensive to raise and establishing separate targets, both departmental and private nurseries will have greater incentives to grow multipurpose fruit and fodder species. This then increases the diversity and availability of seedlings most desired by women and poor farmers. As Gujarat's successful experience with basket seedlings has shown, the sale of low cost seeds and bare root seedlings by the Department, in addition to fully grown polypot seedlings, allows even the poorest farmers to purchase these inputs either for his/her own planting or to establish a nursery.

3.15 Supporting favorable market and trade conditions are also crucial to establishing self-sustaining farm forestry. Legislative restrictions which currently require permits for cutting most species discourage farmers from growing more trees or diversifying the species grown. (Eucalyptus and Poplar have been exempted in most States, although this is not widely known.) This restriction is particularly hard on the small farmer who has less access to the bureacracy to obtain permits and is more doubtful of his or her rights.

3.16 Similarly, the legal requirement for obtaining permits to transport trees to market discourages planting, encourages reliance on middlemen, and encourages corruption. The number of species which can be felled without permit needs to be greatly enlarged to include all species (including fruit trees) which farmers grow on their own land. If any restrictions on felling are to be retained, they should apply only to longrotation natural forest species such as Sal (Shorea robusta) if adjacent to areas of natural forest. Likewise, all transport permits should be abolished, at least in all districts and blocks which do not contain large reserve forests vulnerable to commercial theft.

3.17 Higher returns and stable markets can also be improved by developing market information systems similar to those established for agriculture crops and by eliminating subsidized competition from the State's public forests. Coordinating the location of forest based industries and farm forestry expansion in order to locate supply and demand in the same area, and providing marketing support where necessary through the Forest Corporations, will also be required. Given the political pressures which are already evident for establishing price controls, it is urgent to conduct studies and establish policies which will support this market without leading it into the distortions evident in other agroindustrial markets such as sugarcane.

3.18 This massive adoption of a major new crop -- trees -- within the many varied farming systems and conditions in India requires commensurate technical support through research and extension. Agroforestry is a new field, a major revolution in cropping systems which urgently requires research on appropriate species for different sites, crop combinations, biophysical interactions, economic cost benefit analyses, and tree husbandry. As these topics are generally outside the capability of the FDs, and combine both forestry and agriculture, the best option appears to be to establish contractual research relationships with the State Agricultural Universities (SAUs) -- an approach which has already started under the project and will be considerably expanded for the remaining years.

3.19 In the meantime, it is important to distill the existing knowledge on species choices, spacing, pruning, etc., into focused messages which can be disseminated by the extension services. While forestry extension will likely have to remain a separate service for a variety of reasons, it is crucial for the project that a policy of establishing direct linkages with agriculture extension be implemented. In areas where widespread adoption of farm forestry has not yet taken place, there is strong evidence to suggest that the selection of particular villages and blocks for intensive extension (the "saturation approach") is effective.

PUBLIC FORESTRY: NEW TECHNOLOGIES FOR THE ENVIRONMENT AND LOCAL NEEDS

3.20 The future strategy for public land forestry, including community forestry and government wasteland/degraded land forestry, is based on:

1) the introduction of new technologies (plantation models) oriented to soil and water conservation as well as local use, and

2) the use of improved planning and forest management strategies which match technologies to sites and local preferences and ensure continuous intermediate product flows to local people.

3.21 As discussed in Chapter Two, public forestry is currently dominated by traditional timber-oriented plantation models. These not only fail to realize the potential for environmental rehabilitation and also fail to provide a continuous stream of fuel and fodder products to poor rural collectors, but also serve as publicly funded competition to private farmers. The new strategy calls for the widespread adoption of new technical models which would address these issues through:

1) increasing the spacing between trees to ensure continuous grass production for hand harvesting and continuous ground cover to decrease sheet erosion and increase moisture retention;

2) using coppicing and pollarding species (e.g., Prosopis spp., Acacia spp., Ficus spp., etc.), many of which can be sown from seed rather than planted, and which can be subject to continuous harvest without losing their capacity for natural regeneration;

3) planting and sowing trees on contour trenches which increases moisture availability for tree growth and decreases erosion;

4) planting and sowing shrubs and bushes along the contours to provide a continuous source of fuel twigs and leaves (or thatch, compost material, etc.) and a natural barrier to sheet erosion; and

5) introducing improved grasses and legumes for increased fodder productivity.

3.22 Although the use of contour furrows and shrub/grass/legume planting would seem to increase costs, the end result would be a low cost model since the use of wider spacing and increased sowing of indigenous species would correspondingly reduce costs. The use of these new technologies, some of which have already been tried in project States, should considerably increase both the environmental and socio-economic benefits of public plantations, regardless of land ownership or the effectiveness of government or community management systems. Discussions with villagers during the review mission revealed that most of them -- and particularly the women -- would welcome these modifications of existing practices.

3.23 However, the effectiveness of these new technologies would be considerably enhanced by more effective planning and substantial changes in present forest management strategies. Improved planning is required at three levels:

1) at the macro (State) level, allocation of targets, programs and models should be based on priorities established through assessing the biophysical and socio-economic site capabilities and requirements. These characteristics (e.g., land capability, tenure, population pressure, markets, etc.) can be mapped and incorporated in a simple geographic information (GIS) system;

2) at the district or division level, a similar type of planning methodology is required to match activities to requirements and capabilities; and

3) at the village and panchayat level, microplanning is needed which builds upon present microplanning efforts and involves the local population in the process of determining priorities and socially effective prescriptions.

Recommendations for implementing such a microplanning system are contained in Annex 6: Public Forestry Benefits, Management and Planning.

3.24 Improved forest management requires radical change in the units and harvesting intervals of presently used silvicultural systems. Currently, harvesting systems are based on Working Plans developed by specially assigned Working Plan Divisions which usually consider a large forest area as the unit of management in which annual cutting coupes are identified -- such that one forest area may be harvested on a cycle of anywhere from 15 to 60 years.

3.25 On the other hand, social forestry plantations, designed to provide public benefits, must be oriented towards a continuous product flow: The surrounding villagers have continuing annual requirements which require smaller Felling Series units. Given the new technologies which are to be employed and the importance of the role of local communities in selecting the models and prescriptions to be used, this means that each plantation area (or collection of smaller, nearly contiguous plantation areas) should be the unit of the management plan. They should be designed to provide a continuous product flow of fodder, fuelwood, minor forest products, and perhaps small timber. If community woodlots are involved, the corresponding social unit should be the local village or villages within the panchayat who use the forest, with consideration given for the panchayat to be able to obtain income for public works if so decided.

3.29 Community management of village woodlots (public forestry on community lands), while no longer viewed as a necessary objective of public forestry, remains an attractive alternative to departmental management if effective models can be demonstrated. Since previous efforts in this direction have been hampered by the requirement to operate on a large scale -- thereby entailing large scale risks of failure which the FDs were reluctant to assume -- it is recommended that the future strategy be based on a more limited, though more intensive and bold, approach. The elements of the strategy for this pilot program, discussed more fully in Annex 6: Social Forestry Benefits, Management and Planning, include:

1) revision of microplanning procedures and proformas to emphasize the choice of technical models and management prescriptions through group discussion of alternatives;

2) the provision of financial resources through management contracts or grants to enable community management and the hiring of local guards;

3) the identification of pilot areas for intensive experimentation (e.g., turning over all woodlots in the area) with both existing and newly developed woodlots; and

4) the development of a methodology for action research to allow for effective monitoring and evaluation of the results.

OTHER POLICY CHANGES

3.30 While all the related policy changes which would be important in developing this new strategy for social forestry cannot be addressed here, two major areas touched upon in the foregoing discussion bear additional emphasis:

1) modification of legislation that impinges upon the implementation of this strategy; and

2) coordination of the afforestation, social forestry and wasteland development efforts presently being carried out under different schemes by different departments.

In addition, though outside the scope of this project, a new land use strategy will have to include:

3) the development of new multiple use management strategies and silvicultural practices on reserve forests;

4) the development of watershed management practices which integrate soil and water conservation practices on both private and public lands;

5) a revision of policies for wood and forest product based industries -- both in the organized and unorganized sectors -- to reflect the new sources of supply and the new opportunities for private extension efforts; and

6) a review of the policies and programs for dealing with livestock management and nomadic grazing.

3.31 As discussed in Annex 3: Legislative Issues, a number of legislative hurdles currently constrain social forestry activities. These include not only those harvesting and transport rules discussed earlier in this chapter, but acts, laws, and government orders which circumscribe panchayat activities, benefit distribution, tree tenure and leasehold forestry, and tribal forest use. While the harvesting and transport rules are amenable to immediate change, the time for starting the review process for the remaining legislation is also now.

3.32 The interagency problems experienced in each State with the proliferation of funding for social forestry and wasteland development needs to be addressed both at the State level and as an urgent policy concern for the Government of India. Such a review -- perhaps in the form of a series of workshops -- could also address the role of the Central Support Unit in supporting a comprehensive new strategy for social forestry and land use in India. This review could also examine related issues, such as management of reserve forests, watersheds, private industry, and grazing and livestock, which would form part of a new holistic approach to productive and sustainable resource use in India could.

CHAPTER FOUR

BUILDING CAPACITY

INTRODUCTION

4.01 For the new thrust in social forestry to succeed, the capacity of the Forest Department, farm households, Non-Governmental Organizations, and private industry to carry out support activities needs considerable strengthening. At this stage qualitative improvements in planning, research, training, management and extension are far more important than quantitative increases in staff or facilities. These recommendations for improvement are based on the need to:

1) identify, introduce and evaluate new silvicultural and agroforestry technologies for private and public forestry;

2) develop and institute systems for planning and monitoring which systematically match biophysical and socio-economic requirements;

3) introduce appropriate management structures and processes for planning and implementation which clarify responsibilities and involve all actors (FD and local people) in plantation decision making;

4) train staff and key collaborators (e.g., private nursery operators and community leaders) in the specific new skills required to build a sustainable program; and

5) introduce new tools, specifically a variety of microcomputer based software for research, planning, multiple-use forest management, and monitoring and evaluation.

RESEARCH

4.02 Expanded research efforts are needed to support the new directions in both private and public forestry. In farm forestry, research is urgently required to address the potential and problems of increasing agroforestry adoption. Knowledge must be generated which can provide the basis for sound recommendations to farmers on species selection and tree husbandry for boundry planting, block planting, and intercropping with agricultural crops. For public land forestry, research is needed to identify and test new technologies for increased environmental and fuel/fodder benefits, including the relative merits and propagation methods of various shrubs and grasses/legumes, the use of contour planting, and silvicultural methods for maximizing intermediate produce. Research to improve the seed quality of widely-planted species has also been identified as a priority in all States. In Part III, Annex 2: Environmental Impact and Annex 7: Technology and Research provide further detail on the specific research needs identified.

4.03 Since most of the State Forest Departments have only a limited capacity to conduct research in-house, much of the new research requirements will have to be contracted out to other institutions. For this purpose, each of the State Action Plans has included a new budget line item for research and specified dates by which research programs and contracts should be finalized. In most States this process has already begun and arrangements are being made with the State Agricultural Universities to take up jointly agreed projects. However, it is likely that some technical assistance will be required to further refine research priorities and methodologies.

PLANNING

4.04 Improved planning at all levels will be essential to effectively introduce the new technologies, support the on-going programs, sharpen the focus of experimental efforts, and increase community and farmer participation. The present planning systems at the State, district, and village levels need to be systematically reviewed to determine how and by whom decisions are currently being made with regard to target allocation, technical model selection, site selection, beneficiary selection, management choices, and benefit distribution. At present, many of the shortcomings in the program can be traced to poor planning and the lack of institutional processes for its improvement.

4.05 At the State and district levels, systematic methods are needed to determine priorities, match technologies to sites, coordinate supply with demand, identify appropriate management systems, negotiate contractual arrangements with communities and farmers, and develop long term strategies. As tools which can help with the effort, it is proposed that technical assistance from USAID be employed to introduce a pilot land capability mapping program and the use of geographical information system (GIS) computer software programs. However, it is even more important that the States involved set in motion processes which allow them to review their overall planning processes. Each must identify areas for improvement, perhaps by using the services of management institutions and consultants as well as internal efforts, including the incorporation of lower level field staff in planning meetings.

4.06 At the village level, the initial efforts in some States to develop microplans with villager participation need to be refined and expanded. As set out in Annex 6: Public Forestry Benefits, Management and Planning, this process needs to make use of group discussions on alternative technologies and management systems in order to develop a plan which would focus on prescriptions and the methods for implementing them. Since past attempts to introduce this kind of approach on a State-wide scale have had limited success, it has been proposed in each State Action Plan that specific pilot action research programs be developed to effectively test this planning model.

TRAINING

4.07 Although considerable progress has been achieved, staff training efforts need to be stepped up in both quality and quantity. Existing in-service training courses for Rangers and higher-level staff and regular courses for Foresters and Forest Guards would be more effective with more focus on agroforestry, soil and moisture conservation, use of shrubs, grasses and legumes, use of group discussions in microplanning, and on overall management planning.

4.08 To cover all levels of staff, facilities need to be expanded in H.P. and the number and duration of courses increased in the other States. Formal training should be supplemented with the increased use of staff workshops for personnel of similar levels to compare experiences and help in problem-solving. The State Action Plans contain specific agendas for addressing training needs.

4.09 With regard to training of non-staff personnel, the new strategy calls for more attention to be paid to key collaborators in order to increase the program's sustainability. Kisan, school, and purely private nursery operators are the most logical sources for providing extension information to farmers about how to plant trees. Special courses are needed to train these operators in species selection for different sites, tree management, marketing, seedling propagation and nursery operations for a variety of species. Similarly, community leaders selected as committee members for village woodlot management need training in simple silvicultural management techniques (e.g., coppice with standards, rotational cutting, pruning, etc.), applicable forest laws and government orders, and financial management.

EXTENSION

4.10 It is likely and desirable that, for the forseeable future, the State Forest Departments will have a key role to play in extension. Not only do they currently have a monopoly on technical foresters, but much of the wastelands and all of the degraded forests are under their control. Furthermore, they have a greater and more sustained interest in tree growing than professionals from other disciplines. However, the expansion of departments of forestry in the State Agricultural Universities will gradually change this picture by providing forestry education to personnel joining other agencies. Nevertheless, the primary responsibility for forest extension -- and public forestry in particular -- will remain with the Forest Departments.

4.11 For farm forestry, however, much of the responsibility for individual farmer extension should be placed on the agricultural extension service, with the FD providing technical support. This will require far greater inter-departmental cooperation than has been achieved to date -- particularly at the district and block levels. As noted in the State Action Plans, written agreements between the Forest and Agricultural Departments are needed which, in the case of T&V, specify the Range Officer's and Forester's roles as Subject Matter Specialists in the monthly meetings.

4.12 For this technical role to work effectively, the FD must develop focused, well-defined messages on species selection, agroforestry techniques and models, input use, and tree management. These new messages must distill technical knowledge from research into clear and simple directives. Each State has agreed to identify these messages and incorporate them into training so that all field staff down to Forest Guards are aware of them.

4.13 In addition to forging better linkages with agricultural extension services, the FD can increase its extension effectiveness by supporting private efforts. This includes nursery operators (as discussed above), private industries, such as WIMCO which maintain links with farmers through contractual buy-back arrangements, and Non-Governmental Organizations.

4.14 NGOs, such as Aryavan Vikas Farm Trust, Aga Khan Rural Support Project, Viksat in Gujarat and Seva Mandir in Rajasthan, are developing innovative approaches to extension which can complement Government efforts and provide models for future FD efforts. However, in order to establish collaborative links between NGOs and the FDs, it is important for the FDs to hold some exploratory workshops and appoint nodal officers with responsibility for liaison with NGOs.

4.15 More effective extension also requires that women be treated as a more focused target group. As discussed in Annex 8: Women's Involvement in Project Activities, there is no real substitute for recruitment of women as extension staff, either at Lady Forest Guard level or as Foresters, with supervision from upper-level professional female staff. H.P. is actively working to increase the number of female forestry field staff at various levels and has agreed to fill 50% of all Forest Guard vacancies by women. Other States are being encouraged to follow this initiative and build upon H.P.'s positive experience with village women's organizations (Mahila Mandals).

ORGANIZATION AND MANAGEMENT

4.16 To support the above activities, it is essential that the SFDs have the necessary staff, particularly in specialized fields. In most of the States, critical vacancies exist in monitoring and evaluation as well as in research and training. Except for H.P.'s employment of Lady Forest Guards, women employees are confined to clerical staff. Planning generally suffers from understaffed and overworked offices. In addition, some States have lagged behind in the purchase of vehicles necessary for extension and supervision. Specific steps to deal with these problems have been agreed to in each of the State Action Plans.

4.17 In Himachal Pradesh and Rajasthan, experience has shown that there is a need for a clear line of command and separation of responsibilities for social forestry staff. Both States are making changes in their existing organizations which will entail:

1) a direct line of command over field staff with a specified project officer overall;

2) shifting of management responsibilities for the rehabilitation of degraded forests (RDFs) to social forestry staff; and

3) separate social forestry staff with execution responsibilities.

MONITORING AND EVALUATION

4.18 Despite considerable progress, planning and evaluation still suffer from a lack of reliable data on field programs. The monitoring and evaluation units need to be fully operationalized through the recruitment of more social scientists and forest officers with sufficient seniority to play a central role in project decision-making. The units require additional training in computer technology, use of surveys and statistics and report preparation. Assistance is needed to modify existing software to meet other survey needs and to introduce better statistical packages.

4.19 The GOI monitoring formats also require revision to make them simpler and more useful. The NWDB has agreed to continue providing support for this purpose and this will be supplemented by technical assistance from USAID. A workshop is proposed to be held within one year to assess results to date and modify methodologies based on experience gained so far.

TECHNICAL ASSISTANCE

4.20 Technical assistance, both local and international, has a key role to play in building the necessary capacity to implement the new social forestry strategy. The new technologies, new tools for planning and analysis, and new perspectives which have been identified require access to new sources of information as well as new forms of collaboration to serve as a catalyst for change. The high targets brought about by the GOI's laudable policy of rapid wasteland development and the large amounts of funds channeled through proverty allieviation programs together with staff constraints have resulted in a heavy burden of operational work. Few FD staff are left with time to acquire and incorporate the new levels and types of expertise needed. Outside assistance is a necessary ingredient to introducing new directions.

4.21 Increased local technical assistance and collaboration will be arranged through contractual arrangements with State Agricultural Universities (SAUs) and other management and research institutes to assist in carrying out the research, training, and special studies agreed upon inthe review. The NWDB would assist in this process by providing contractual assistance to strengthen monitoring and evaluation software, to provide training through the CMC (Computer Maintenance Corporation), and to facilitate other technical assistance.

4.22 USAID would provide both national and international technical assistance in a number of areas for which the States have difficulty in obtaining assistance or developing collaboration directly. This would include providing methodological and technical expertise in research, planning, soil and moisture conservation, monitoring and evaluation, and the design of experimental programs in community management and tree tenure. For this purpose, better procedures for obtaining necessary agreements among all parties involved are required if the accepted State Action Plans are to be successfully implemented and the planned workshops and training sessions held on time.

4.23 Similarly, obstacles currently encountered in carrying out the agreed upon international training of FD personnel need to be removed. New approaches require exposure to new ideas and the development of new skills. While social forestry in India has much to teach the rest of the world, there is much to gain by project personnel also learning from alternative approaches elsewhere, in the spirit of true international collaboration.

CHAPTER FIVE

FINANCIAL IMPLICATIONS AND SUMMARY ACTION PLAN

FINANCIAL IMPLICATIONS

Status and Issues:

5.01 Due to the budgetary shortfalls by the States, the cumulative budgetary shortfall for the NSFP had reached, by March 31, 1988, about Rs. 622.7 million or US$ 44 M (see Table 5.01). This has affected the physical project target achievements (Table 5.02) and has resulted in IDA/USAID disbursements falling greatly behind. This was despite the fact that both IDA and USAID had increased certain project disbursement categories to over 100% to help Government in alleviating the adverse effects of the recent drought. Total disbursements amounted, by March 31, 1988, to $70.1 M (IDA, $47.4 M and USAID, $22.7 M) as against an original estimated total target of $111.4 M in the project documents. Due to the appreciation of the dollar versus the rupee, a further $4 M was not disbursed (IDA, $3 M and USAID, $1 M). As a result of the States' financial constraints, project achievements will likely not be met by the project's closing date in July/December 1990 and the need for credit cancellation or extension of the project will largely depend upon the States' budget allocations in FY 1989 and 1990, particularly in Gujarat and Rajasthan.

5.02 Based on revised plantation targets (Table 5.02), revised cost estimates have been prepared according to original Project Completion Dates (PACD) (Table 5.07) and with the extension of the PACD to 12/31/90, including 1990/91 field activities (Tables 5.08 through 5.11). Provided that the FDs will receive the required budget allocations and can keep to the revised planned targets, full disbursement of the IDA credit can still be expected by June 30, 1991, whereas 80% of the USAID funds would be disbursed by December, 1990 (Table 5.12). In the event that the State Governments would increase their budget allocations and 1990/91 field activities are included, then USAID disbursements would be further accelerated.

5.03 Despite repeated requests by IDA/USAID to NWDB to provide specific proposals for spending IDA/USAID funds which were set aside for the strengthening of the Central Support Unit for social forestry, none have been received as yet. Proposals are still being awaited.

5.04 Through the various rural development programs, the four States are carrying out similar plantation development activities as under the project, but these funds are not channelled through the FDs. One way to secure adequate budget allocations for each subproject would be to route some of the rural development funds to the FDs for project plantation activities.

Recommended Action:

5.05 The IDA Development Credit Agreement, disbursement categories 1 and 7, must be amended as soon as possible and reduced from 90% to 70% and from 100% to 50% respectively.

5.06 The FDs and USAID/IDA must agree upon revised plantation targets and cost estimates before July 31, 1988.

5.07 Gujarat and U.P. should confirm the increased budget allocation for 1988/89 and submit to USAID/IDA the additional plantation program, including their consequences on staffing and other operating costs, before July 31, 1988.

5.08 The NWDB needs to send proposals on the Central Support Unit to USAID/IDA by July 31, 1988 or the funds will be cancelled.

5.09 GOI and the four State Governments (Gujarat, Himachal Pradesh, Rajasthan, and Uttar Pradesh) must confirm by July 31, 1988 that rural development funds can be routed through the FDs and used for certain project field activities.

SUMMARY ACTION PLAN

5.10 The Action Plan for each individual State subproject can be found in the appropriate Aide Memoire in Part II. The principal project actions are summarized in the Summary Action Plan which follows Tables 5.01 - 5.12.

TABLE 5.01

Budget Allocations Per Subproject States

(Rs Millions)

State	IFY 85/86 Target	IFY 85/86 Actual	IFY 86/87 Target	IFY 86/87 Actual	IFY 87/88 Target	IFY 87/88 Actual	Actual Cumulative Deficit Thru 03/31/88	IFY 88/89 Target	IFY 88/89 Estimated Allocation	IFY 89/90 Target	IFY 89/90 Estimated Allocation	Estimated Cumulative Deficit Thru 03/31/90
Uttar Pradesh	223.9	198.0	271.9	192.3	339.4	268.7	176.2	388.2	385.0	388.2	390.0	177.6 deficit
Himachal Pradesh	101.8	42.5	101.1	101.1	116.8	125.0	51.1	137.7	213.5	115.6	1..8	80.9 surplus
Rajasthan	50.6	33.1	66.5	52.8	76.5	74.5	33.2	99.3	78.4	99.8	66.5	86.4 deficit
Gujarat	228.4	105.6	224.2	106.4	265.5	143.9	362.2	310.9	151.8	267.5	174.3	614.5 deficit
Total	604.7	379.2	663.7	452.6	798.2	612.1	622.7	936.1	828.7	970.1	802.6	797.6 Net deficit

Table 5.02

Consolidated Plantation Achievement and Revised Targets
(including 90/91 plantation targets)

Per Subproject (ha)

	HIMACHAL PRADESH		RAJASTHAN		UTTAR PRADESH		GUJARAT		GRAND TOTAL	
	Total PP (Original)	Total Revised	Total PP (Original)	Total Revised	Total PP (Original)	Total Revised	Total PP (Original)	Total Revised	Total PP Original	Total Revised
Farm Forestry	53,000	37,000	84,000	55,105	134,000	156,667	200,000	336,066	471,000	584,838
Private Wasteland Plantation	13,000	13,000	0	0	0	0	35,000	22,576	43,500	35,576
Tree Tenure	833	833	7,500	900	13,210	1,000	NIL	NIL	21,543	2,733
Community Woodlots	41,000	49,000	5,000	6,174	14,000	9,000	35,000	18,870	95,000	83,044
Wasteland Plantation	5,000	9,000	24,300	17,883	740	17,570	47,900	41,800	77,940	86,553
Silvi pastoral & Soil & Moisture Coastal RDF	Nil	4,000	-	-	-	-	-	-	-	4,000
Total Plantation	112,833	112,833	120,800	80,062	161,950	184,537	313,400	419,312	708,983	796,744

TABLE 5.03

GUJARAT SUBPROJECT

Revised Project Cost
(Rs.'000)

	Cum. Exp. to 3/31/88	IFY88/89	IFY89/90	Total
Infrastructure	8,045	9,496	9,496	27,037
Training	1,461	1,040	1,040	3,541
Technical Assistance/Studies	Nil	50	50	100
Research	172	1,000	1,000	2,172
Plantations:	303,644	168,613	157,506	629,763
Farm Forestry:				
Potted Seedlings		18,000	6,000	
Basket Seedlings		1,060	1,060	
Private Wasteland		19,435	16,085	
Community Woodlot		39,917	39,284	
Community Fodderlot		642	572	
RDF		38,833	48,993	
Strip		44,535	39,321	
Urban Fuelwood		6,191	6,191	
Fuel Saving Devices	320	917	917	2,154
Staff Salaries & All	9,501	4,500	4,500	18,501
Other Oper. Exp.	35,791	7,246	7,246	50,283
Total Base Cost	358,934	192,862	181,755	733,551
Contingencies (10% in 89/90)			18,176	18,176
Total Costs	358,934	192,862	199,931	751,727

TABLE 5.04

HIMACHAL PRADESH SUBPROJECT

Revised Project Cost

(Rs.'000)

	Cum. Exp. to 3/31/88	IFY88/89	IFY89/90	Revised LOP Target
Infrastructure	19,913	24,647	20,206	64,766
Training & Workshop	1,852	2,819	5,025	9,696
Technical Assistance/studies	Nil	1,054	790	1,844
Research	Nil	1,000	2,500	3,500
Plantations:	191,715	113,119	60,497	365,331
Farm Forestry		29,066	11,140	
Private Wasteland Dev.		14,228	5,971	
Tree Tenure		853	361	
Community Forest		46,109	22,538	
Wasteland Plant		8,863	5,487	
Silvopastoral RDF		14,000	15,000	
Fuel Saving Devices	736	1,100	900	2,736
Crematoria		900	900	
Stoves				
Pressure Cookers		200	Nil	
Staff Salaries & All	34,642	31,109	31,758	97,509
Other Oper. Exp.	26,606	8,083	11,757	46,446
Total Base Cost	275,464	182,931	133,433	591,828
Contingencies (10% in 89/90) (20% in 90/91)			13,343	13,343
Total Costs	275,464	182,931	146,776	605,171

TABLE 5.05

Revised Project Cost with PACD 31 December 1990
(including 90/91 field activities)

(Rs '000)

	Cum. Exp. to 3/31/88	IFYB8/89	IFYB9/90	Revised LOP target
Infrastructure	15,542	Nil	Nil	15,542
Training	1,928	620	660	3,208
Technical Assistance/Studies	Nil	100	100	200
Research	Nil	600	400	1,000
Plantations:	108,123	67,643	21,170	196,936
Farm Forestry		9,840	3,280	
Ber Grafting		200	280	
Tree Tenure		852	27	
Community Woodlot		14,277	5,198	
RDF		35,828	6,849	
Strip		6,646	5,536	
Flood Control		Nil	Nil	
Fuel Saving Devices	1,020	350	350	1,720
Staff Salaries	25,793	15,080	15,080	55,953
Other Oper. Exp.	4,702	3,070	2,230	10,002
Total Base Cost	157,108	87,463	39,990	284,561
Contingencies (10% in 1989/90)			3,999	3,999
Total Costs	157,108	87,463	433,989	288,560

TABLE 5.06

UTTAR PRADESH SUBPROJECT

Revised Project Cost
(Rs. '000)

	Cum. Exp. to 3/31/88	IFY88/89	IFY89/90	Revised/ LOP large
Infrastructure	73,449	132,300	40,353	246,102
Training	13,103	10,000	10,000	33,103
Technical Assis./Studies	Nil	150	150	300
Research	Nil	2,000	2,000	4,000
Plantations:	305,662	131,836	105,222	542,720
Farm Forestry		52,500	15,750	
Tree Tenure		4,967	2,406	
Community Forest		21,870	11,849	
Strip		10,626	6,175	
RDF		41,873	69,042	
Staff Salaries all	90,803	81,996	49,600	279,420
Other Oper. Exp.	119,195	34,800	31,395	203,595
Total Base Cost	602,212	393,082	345,341	1,309,240
Contingencies (10% in 89/90)			37,510	31,395
Total Costs	602,212	393,082	412,615	1,340,635

TABLE 5.07 EXTENDED PACD

Consolidated Plantation Achievement and Revised Targets with PACD 31 December 1990
(including 90/91 plantation targets)

Per Subproject (ha)

	HIMACHAL PRADESH		RAJASTHAN		UTTAR PRADESH		GUJARAT		GRAND TOTAL	
	Total PP (Original)	Total Revised	Total PP (Original)	Total Revised	Total PP (Original)	Total Revised	Total PP (Original)	Total Revised	Total PP Original	Total Revised
Farm Forestry	52,000	43,631	84,000	67,438	134,000	191,667	200,000	396.066	471,000	698,802
Private Wasteland Plantation	12,000	16,592	0	0	0	0	30,500	27,976	43.500	44,568
Tree Tenure	833	1,048	7,500	950	13,210	1,500	NIL	NIL	21,543	3,498
Community Woodlots	41,000	60,469	5,000	6,924	14,000	10,117	35,000	23,970	95,000	101,480
Wasteland Plantation	5,000	11,083	24,300	18,775	740	24,370	47,900	52,300	77,940	106,528
Silvi pastoral & Soil & Moisture Conservation RDF	Nil	6,000	-	-	-	-	-	-	-	6,000
Total Plantation	112,833	138,823	120,800	94,087	161,950	227,654	313,400	500,312	708,983	960,876

TABLE 5.08 EXTENDED PACD

GUJARAT SUBPROJECT

Revised Project Cost with PACD 31 December 1990
(including 90/91 field activities)

(Rs.'000)

	Cum. Exp. to 3/31/88	IFY88/89	IFY89/90	IFY90/91	Revised LOP Target
Infrastructure	8,045	9,496	9,496	7,122	34,159
Training	1,461	1,040	1,040	388	3,929
Technical Assistance/Studies	Nil	50	50	264	364
Research	172	1,000	1,000	100	2,272
Plantations:	303,644	168,613	211,273	187,506	871,036
Farm Forestry:					
Potted Seedlings		18,000	18,000	600	
Basket Seedlings		1,060	1,060	1,060	
Private Wasteland		19,435	20,038	18,315	
Community Woodlot		39,917	49,597	49,616	
Community Fodderlot		642	814	1,316	
RDF		38,833	63,603	70,050	
Strip		44,535	51,970	40,358	
Urban Fuelwood		6,191	6,191	6,191	
Fuel Saving Devices	320	917	917	917	3,071
Staff Salaries & All	9,501	4,500	4,500	3,376	21,877
Other Oper. Exp.	35,791	7,246	7,246	5,434	55,717
Total Base Cost	358,934	192,862	235,522	205,107	992,425
Contingencies (10% in 89/90)			23,552	41,021	64,573
Total Costs	358,934	192,862	259,074	246,128	1,056,998

TABLE 5.09 EXTENDED PACD

HIMACHAL PRADESH SUBPROJECT

Revised Project Cost with PACD 31 Dec. 1990
(including '90/91 field activities)

(Rs.'000)

	Cum. Exp. to 3/31/88	IFY88/89	IFY89/90	IFY90/91	Revised LOP Target
Infrastructure	19,913	24,647	20,206	15,154	79,920
Training & Workshop	1,852	2,819	5,025	388	10,084
Technical Assistance/Studies	Nil	1,054	790	264	2,108
Research	Nil	1,000	2,500	164	3,664
Plantations:	191,715	113,119	60,497	86,765	497,028
Farm Forestry		29,066	11,140	11,140	
Private Wasteland Dev.		14,228	5,971	16,705	
Tree Tenure		853	361	361	
Community Forest		46,109	22,538	33,655	
Wasteland Plantation		8,863	5,487	8,904	
Silvopastoral RDF		14,000	15,000	16,000	
Fuel Saving Devices	736	1,100	900	917	3,653
Crematoria		900	900	917	
Stoves					
Pressure Cookers		200	Nil	Nil	
Staff Salaries & All	34,642	31,109	31,758	23,818	121,327
Other Oper. Exp.	26,606	8,083	11,757	8,817	55,263
Total Base Cost	275,464	182,931	133,433	136,287	773,047
Contingencies (10% in 89/90) (20% in 90/91)			13,343	27,257	45,093
Total Costs	275,464	182,931	146,776	163,544	818,140

TABLE 5.10 EXTENDED PACD

RAJASTHAN SUBPROJECT

Revised Project Cost with PACD 31 December 1990
(including 90/91 field activities)

	Cum. Exp. to 3/31/88	IFY88/89	IFY89/90	IFY90/91	REVISED LOP TARGET
Infrastructure	15,542	Nil	Nil	Nil	15,542
Training	1,928	620	660	388	3,596
Technical Assistance/Studies	Nil	100	100	264	464
Research	Nil	600	400	100	1,100
Plantations:	108,123	67,643	28,653	21,170	225,589
Farm Forestry		9,840	9,067	3,280	
Ber Grafting		200	280	280	
Tree Tenure		852	27	27	
Community Woodlot		14,277	4,557	5,383	
RDF		35,828	8,332	7,064	
Strip		6,646	6,390	5,136	
Flood Control		Nil	Nil	Nil	
Fuel Saving Devices	1,020	350	350	1,269	2,989
Staff Salaries	25,793	15,080	15,080	11,310	67,263
Other Oper. Exp.	4,702	3,070	2,230	1,673	11,675
Total Base Cost	157,108	87,463	47,473	36,174	328,218
Contingencies (20% in 1990/91)			4,747	7,234	11,981
Total Costs	157,108	87,463	52,220	43,408	340,199

TABLE 5.11 EXTENDED PACD

UTTAR PRADESH SUBPROJECT

Revised Project Cost with PACD 31 December 1990
(including '90/91 field activities)

(Rs.'000)

	Cum. Exp. to 3/31/88	IFY88/89	IFY89/90	IFY90/91	Revised/ LOP targe
Infrastructure	73,449	132,300	40,353	30,265	276,367
Training	13,103	10,000	10,000	386	33,491
Technical Assis./Studies	Nil	150	150	264	564
Research	Nil	2,000	2,000	164	4,164
Plantations:	305,662	131,836	166,381	135,222	739,101
Farm Forestry		52,500	52,500	15,750	
Tree Tenure		4,967	4,240	4,908	
Community Forest		21,870	14,101	17,829	
Strip		10,626	13,780	13,984	
RDF		41,873	81,760	82,751	
Staff Salaries all	90,803	81,996	106,621	79,965	359,385
Other Oper. Exp.	119,195	34,800	49,600	39,280	242,875
Total Base Cost	602,212	393,082	375,105	285,548	1,665,947
Contingencies (10% in 89/90) (20% in 90/91)			37,510	57,109	94,619
Total Costs	602,212	393,082	412,615	342,657	1,750,566

TABLE 5.12

NATIONAL SOCIAL FORESTRY PROJECT
AID Share $ '000

		Accrued through 31 March '88 (Disbursement & Accruals)	Estimated Accruals During IFY 88-89	Estimated Accruals During IFY 89-90	Estimated Accruals During IFY 90-91	TOTAL
I.	Original PP Target	-	-	-	-	80,000
II	With PACD upto 31 July/1990	30526	13935	13087	-	57,548
II	With PACD upto 31 Dec/1990	30526	13935	17001	14779	76,241

Note: The numbers in II and III above do not include the GOI Central support unit to which USAID contribution (per original PP) is $ 1 m, as the revised GOI proposal has not yet been revised.

NATIONAL SOCIAL FORESTRY PROJECT

SUMMARY ACTION PLAN

RECOMMENDED ACTION	TARGET DATE	RESPONSIBLE AGENCY
Farm Forestry		
1. Establish seedling prices according to production costs by species groups; restrict seedling subsidy for basket and minikit seedlings only, for equity reasons.	March 1989	FDs
2. Remove wood felling and transport restrictions.	March 1989	FDs
Community Woodlots		
1. Reduce or increase components depending upon review of land availability and rationalization of government programs (e.g., NREP).	Oct. 1989	FDs
2. Prepare pilot programs to experiment with decentralized management with appropriate local institutions and user groups.	March 1989	FDs
Rehabilitation of Degraded Forests		
1. Develop and introduce lower cost models to better reflect environmental and socio-economic concerns.	June/Oct 1989	FDs
2. Introduce pilot efforts to delineate forest areas in RDFs for commercial, socio-economic or mainly environmental end uses.	March 1989	FDs/ USAID
Strip Plantations		
1. Reduce unit cost; make species choice and spacing more site specific, with greater attention to introduction of live hedges.	June 1989	FDs

RECOMMENDED ACTION	TARGET DATE	RESPONSIBLE AGENCY
Tree Tenure		
1. Conduct studies to identify key constraints; revise targets accordingly.	Oct. 1989	FDs
Fuel Saving Devices		
1. Review unit cost of crematoria; focus installation efforts mainly in semi-urban areas.	June 1989	FDs
Research		
1. Prepare or refine research strategy; include a minimum of Rs. 2 M in the annual budget.	March 1989	FDs
Extension		
1. Give priority to providing appropriate linkages with Agriculture Dept. and to preparing concrete extension messages for Forestry staff and NGOs.	March 1989	FDs/Agric.
Training		
1. Review curricula to reflect priority directions in introducing new technical models and local forest management.	March 1989	FDs/Agric.
Organization and Management		
1. Make socio-economic aspects of forestry more prominent in organizatinal structure and annual target setting, especially for components requiring a great deal of community interaction.	Dec. 1989	FDs
2. Capitalize on women's role in forestry operations by increasing number of female forestry staff.	June 1989	FDs

RECOMMENDED ACTION	TARGET DATE	RESPONSIBLE AGENCY
Monitoring and Evaluation		
1. Provide technical assistance for computer software and speed up analysis of data collected.	Dec. 1989	FDs/USAID
Women		
1. Conduct study of women's roles in forestry; improve effectiveness of lady extension workers; develop training and appropriate models for including women in project activities.	Dec. 1989	FDs
Non-Governmental Organizations		
1. Survey existing NGOs in States and organize workshops to develop strategy for collaboration.	March 1989	FDs
2. Appoint NGO nodal officer in FDs.		
Project/Credit Agreement		
1. Amend all agreements concerning the description of the project.	July 1989	FDs/USAID/IDA
2. Reach agreement for the eventual need for project extension and present need for credit cancellation.	July 1989	FDs/USAID/IDA
3. Obtain final compliance for the pending Covanents as indicated in the Actic:n Plans of the four State Aide Memoires in Part II of this report.	Oct. 1988	FDs/GOI/USAID

INDIA NATIONAL SOCIAL FORESTRY PROJECT

MIDTERM REVIEW

PART II: STATE SUBPROJECT REPORTS/AIDE MEMOIRES

Report of the Joint Midterm Review Team
World Bank
U.S. Agency for International Development
Government of India

Prepared for Distribution by USAID/New Delhi
October, 1988

PART II: STATE SUBPROJECT AIDE MEMOIRES

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GLOSSARY

Circle: Regional forest administrative unit under the control of Conservator of Forest

Division: Forest administrative unit under the control of a Divisional Forest Officer (sub-unit of a Circle).

Gochar: Grazing land

Go-Sadan: Cattle home maintained by private or government organization

Katha: Extract from the heartwood of Acacia catechu used for betel nut preparations (paan)

Kisan nursery: Farmer contracted nursery

Paise: Plural of paisa (1/100 of a rupee)

Panchayat: Local elected governing unit consisting of one or more villages

Patta: Certificate of tenure issued by the Revenue Department authorities

Rakha: Traditional community managed forest preserves in Himachal Pradesh

Range: Forest administrative unit under the control of a Forest Ranger (sub-unit of a Division)

Rupee: Unit of currency in India

Shamlat: Common grazing lands in Himachal Pradesh

Van Chetna Kendras: Forest Awareness Centres

LIST OF ACRONYMS

ACCF -- Additional Chief Conservator of Forests
AERC -- Agro Economic Research Centre, Himachal Pradesh University, Shimla
ASAP -- As soon as possible
BAIF -- Bharat Agro Industries Foundation, Pune
CCF -- Chief Conservator of Forests
CF -- Conservator of Forests
CFS -- Cooperative Forest Society
CWL -- Community Woodlot
DCF -- Deputy Conservator of Forests
DFO -- District Forest Officer
DNE -- Department of Nonconventional Energy
DPAP -- Drought Prone Area Programme
DRD -- Department of Rural Development
DRDA -- District Rural Development Authority
FD -- Forest Department
FG -- Forest Guard
FR -- Forest Ranger
Fr -- Forester
FY -- Fiscal Year
G.O. -- Government Order
GOG -- Government of the State of Gujarat
GOI -- Government of India (Central Government)
GOHP -- Government of the State of Himachal Pradesh
GOR -- Government of the State of Rajasthan
GOUP -- Government of the State of Uttar Pradesh
HA -- Hectare
H.P. -- Himachal Pradesh
IRDP -- Integrated Rural Development Program
IRMP -- Integrated Resourcess Management Plan
IDA -- International Development Association of the World Bank
IFY -- Indian Fiscal Year
LFG -- Lady Forest Guard
M&E -- Monitoring and Evaluation
MFP -- Minor Forest Products
MOA -- Ministry of Agriculture, Government of India
MOEF -- Ministry of Environment and Forests
NABARD National Bank for Agriculture and Rural Development
NDDB -- National Dairy Development Board
NREP -- National Rural Employment Programme
NSFP -- National Social Forestry Project
NWDB -- National Wastelands Development Board

LIST OF ACRONYMS (CONTINUED)

PACD -- Project Assistance Completion Date
PIL -- Project Implementation Letter
PCCF -- Principal Chief Conservator of Forests
RLEGP - Rural Landless Employment Guarantee Program
RDC -- Rural Development Corporation
RS -- Rupees
RDF -- Rehabilitation of Degraded Forests
RDA -- Rehabilitation of Degraded Areas
SAU -- State Agricultural University
SFW -- Social Forestry Wing
SFD -- State Forest Department
SMS -- Subject Matter Specialist
SOE -- Statement of Expenditure
SOW -- Scope of Work
T&V -- Training and Visit
USAID - U.S. Agency for International Development
VDC -- Village Development Committee

INDIA NATIONAL SOCIAL FORESTRY PROJECT

AIDE MEMOIRE I: GUJARAT STATE SUBPROJECT

INTRODUCTION

1.01 A joint IDA/USAID mission visited Gujarat 1-11 February, 1988 for a midterm review of the Gujarat subproject of the National Social Forestry Project in order to assess the progress towards project objectives and to recommend future program directions.

1.02 The mission conducted field site visits in Vadodara, Kheda, Surat, Godhra, Baruch, Rajkot, Surendra Nagar, Bhavnagar, Sabarkanta and Mehsana Forest Divisions. Extensive talks were held with various categories of farmers, panchayat leaders, women's groups, school teachers and field staff of the social forestry section of the Forest Department. Finally, meetings were held with the Secretary and senior officials of the State Forestry Department.

1.03 This Aide Memoire discusses the status of the various components, major issues and mission recommendations. It should be read in the context of the overall midterm review document (Part I) in which the project's progress in achieving its objectives and the substantive issues involved are discussed in depth. At the end of this Aide Memoire, the Gujarat subproject budget allocation figures are presented in Table 1.01; overall plantation and physical achievements are presented in Tables 1.02 and 1.03; and revised cost estimates for the project are presented in Table 1.04. The operational changed proposed for the remainder of the project are summarized in the Action Plan.

GENERAL

1.04 The project has shown remarkable progress in increased seedling production and in the privatization of the nursery network. Physical achievements in community woodlots, however, are less than half those planned under the project to date. This shortfall is due to competing land use demands from similar afforestation programs and reduced budget allocations. The cumulative budget shortfall by March 31, 1988 amounted to over 40%.

1.05 To more effectively achieve the project goals, is is necessary to modify targets according to experience gained to date--reducing some, increasing others and dropping unrealistic components. Considerable attention needs to be devoted to introducing technical models for plantation which better meet both the socio-economic and environmental objectives of the project. This effort needs to be supported by greatly strengthened research and expanded training as well as intensive pilot efforts which can develop viable methods for community management.

1.06 In addition, administrative and legislative hurdles to more effective farm forestry marketing need to be removed. This will allow for greater expansion of more diversified agroforestry systems which rely less on Eucalyptus and are economically and environmentally more complementary to the cropping systems practiced in the State. Specific issues and recommended actions are dealt with in the remainder of this Aide Memoire.

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AGROFORESTRY

Status and Issues:

1.07 Significant achievement has been made in increased seedling production and development of the private planting program (180% more than the project target during the first 3 years). In keeping with such increased farmer response, the SFD has proposed increased targets of 60,000 ha each for the remaining two years, against 40,000 ha provided for originally.

1.08 For 1988-89, 50% of the seedlings produced were through decentralized kisan and school nurseries (as against 20% in 1987/88). The limit for free distribution of seedlings has been reduced to 400 and the price increased to 10 paise per seedling this year, in keeping with the original project provision. The SFD is also planning to restrict the free distribution limit to 200 and increase the price of seedlings to 20 paise during 1989/90.

1.09 There is evidence of progressively increasing privatization of nurseries whereby some seedlings are sold in addition to the departmental buy-back arrangement. These nurseries are also raising a broader range of species of economic, nutritional and social value. Truly developed private nurseries would be able to share departmental seedling production responsibility.

1.10 Development of such private nurseries would be stimulated if a suitable pricing policy were introduced. A recent study in U.P. has shown that there is continued high demand for seedlings priced at production cost. The SFD in Gujarat is also in the process of initiating a similar study. This in turn would help develop a policy that would encourage the decentralised privatization of seedling production and provide equitable access to all farmers.

1.11 In private planting, there is an emerging farmer preference for fuel/fodder/small timber species other than Eucalyptus. There is also increasing adoption of intercropping or peripheral planting models in addition to traditional block tree farming.

1.12 To support the development of these encouraging trends, it is imperative to have information on the various agroforestry research trials and the market potentials of social forestry products. USAID and IDA are in the process of initiating a marketing study through a competent Indian institution that would analyze alternative marketing strategies for different species from private planting.

1.13 Prior government approval is required for the felling of five tree species: teak, mahna, rosewood, chandan and mango. Further, species like Casuarina and Eucalyptus have been exempted from the purview of the Forest Produce Transit Rule. It is, however, necessary to ensure that such regulations do not act as a disincentive to farmers' tree growing, particularly given the emerging trend of diversified species choice under the private planting program.

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Recommended Action:

1.14 Confine free distribution to the low cost departmental basket seedlings with the objective of eliminating all free seedlings as soon as possible; develop a pricing policy for each of the different species, based upon its cost of production.

1.15 Liberalize existing legislation (Acts and Rules) to expand the list of species to be exempted from the provisions of felling/transportation rules to include species grown under social forestry.

1.16 Increase the farm forestry target to 60,000 ha for each of the remaining two years of the project.

PRIVATE WASTELAND PLANTING

Status and Issues:

1.17 The private wasteland program is a subsidized farm forestry activity directed towards scheduled caste/tribe families having lands that are either seriously eroded or in danger of erosion.

1.18 So far, only about 65% of the first 3 years' target has been attained. This is primarily due to the prevalent drought situation in the State during the last three years. In fact, an area of 3200 ha could not be planted during 1987/88 although the SFD entered into contractual agreements with the farmers and preparatory soil working had been completed. This area will have to be planted in the 1988 rainy season (July/August) along with current year's target of 3500 ha to which also SFD stands committed. The target for the last year of project planting should be reduced to 5400 ha.

1.19 The SFD should also adhere more strictly to the land and beneficiary selection procedures by concentrating its activities in hilly/undulating terrain and by introducing flexibility for the farmers to adopt other plantation models (boundary, agroforestry) in addition to block plantations.

Recommended Action:

1.20 The target should be reduced to 8900 ha for the remaining two years of the project (3500 for 1988/89 and 5400 for 1989/90), adhering strictly to the site/beneficiary selection criteria.

COMMUNITY WOODLOTS

Status and Issues:

1.21 Competing land use demands are increasing and the availability of land for woodlots will continue to decline under the project. As evidence of this problem, already about 10-15% of woodlots have been raised on Revenue Wastelands. The State Rural Development Department is currently implementing large afforestation programs through various schemes (NREP, RLEGP, DPAP and IRDP) for development of tree/fodder lots on gram panchayat lands.

1.22 Further, a recent Government Order also provides for the allotment (lease) of panchayat land to Cooperative Societies, industrial institutions and individuals. As a result, only 62% of the woodlot target could be attained during the first three years of the project. An appropriate Government Order is necessary to ensure that panchayats receive the expected benefits as provided for in the distribution guidelines for these woodlots. In the future, woodlots should not be raised on revenue lands unless appropriate provisions have been made.

1.23 There are two issues regarding woodlot size: Individual woodlots must be of a minimum size to be considered a viable production unit. Secondly, the village as a whole requires a total (optimum) area in order to be able to practice scientific forestry management on a sustained yield principle by creating woodlots of different age gradations. The philosophy behind such an approach is that there should be meaningful production at harvest as well as a continuous flow of intermediate yields (grass, flowers, fruit, leaves, twigs, other minor forest products) to generate sufficient village interest in the program.

1.24 The mission found that the availability of such land is rather limited and felt that the targets need modification. New models, which include a second story of suitable indigenous and useful shrubs and a more environmentally and socially-appropriate species mix, could greatly increase project benefits.

1.25 SFW has proposed increasing the woodlot boundary trench size from 0.3 x .3 mt to 1.2 x .6 x .6 mt, with an additional expenditure of Rs 500/ha. This would be a retrogade step as the intent is to provide demarcation and a psychological barrier through use of small trenches and low cost live hedge fencing by advance sowing of thorny species. Experience to date is that no woodlot can be successfully established unless village cooperation is forthcoming.

1.26 SFW has also proposed increased spacing for irrigated plantations from 1 x 1 mt to 1.25 x 1.25 mt (for Eucalyptus, Subabal casuarina) and 2 x 2 mt/3 x 1.25 mt for other species. This is based on research studies on growth parameters of irrigated woodlots carried out by the SFD.

1.27 Two other issues are that community management has not been forthcoming and that the current provisions of the Panchayat Act do not allow reforestation through the use of the panchayat's share of sale proceeds following harvest. This clearly undermines the suggestion of sustainable production outlined earlier.

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1.28 Some of the old woodlots (1974, 1975) have recently been harvested by SFW and the products disposed of through free distribution and concessional sales to villagers and through open auctions. The existing Government Order for product benefit distribution from woodlots specifies that wood above 20 cm girth be first sold for domestic use at 60% market rate to landless, small and marginal farmers.

1.29 It is only after satisfying the demand of these target groups that the FD can sell any remaining balance by auction, but not before one month after harvesting. Investigation is needed to find out what the actual experience has been so far with distribution of harvested products.

1.30 The fodder development sub-component envisaged the creation of 10,000 ha of fodder lots. Due to budgetary constraints, SFW had not been able to take up this activity. The mission agrees that this target should be reduced considerably and that pilot experimentation be carried out in consultation with National Dairy Development Board, which has considerable experience in this area.

Recommended Action:

1.31 Ensure that product distribution and disposal guidelines for woodlots on panchayat land also apply to woodlots on revenue land by issuing an appropriate Government Order.

1.32 Modify woodlot targets to 3750 ha and 4900 ha for the remaining two years; introduce new sustained yield models to address environmental and social concerns.

1.33 Implement a pilot program to find effective approaches to decentralized management by appropriate local-level institutions.

1.34 Amend the Panchayat Act to allow for reforestation following harvest.

1.35 Conduct a study to assess the experience to date of benefit distribution after harvesting of woodlots.

1.36 Revise the tree fodder lot target to 200 ha/year and implement it through a pilot program.

1.37 Introduce increased spacing for irrigated plantations. SFW should submit specific cost estimates with the reduced number of trees/ha.

1.38 Withdraw woodlot limits of 4 ha, thus enabling panchayats to make appropriate decisions.

REHABILITATION OF DEGRADED AREAS

Status and Issues:

1.39 About 93% of the first three years' target has been attained. It is expected that a total of about 28,000 ha would be achieved by the end of the project, against a planned target of 30,400 ha. The SFW proposes reducing the length of gradonis from 800 to 400 mt/ha and reducing the cost by Rs 170/ha, based only for flatter areas.

1.40 Currently, there is a lack of site-specific plans which reflect local village needs. In addition, the present models fail to adequately address environmental issues (soil/moisture conservation and site improvement). The existing social security scheme is a program of raising woodlots by tribal families through rotational allocation of degraded forest land.

Recommended Action:

1.41 Develop new technical models that place more emphasis on suitable tree and shrub mixes, that provide intermittent, sustained benefits, and that address environmental issues through the use of wider spacing of trees and increased sowing of shrubs, and grasses and legumes.

1.42 Aid these new models by initiating pilot efforts in land capability mapping with USAID technical assistance. This would facilitate the classification of forest lands according to the degree of degradation. An amount of Rs 100,000 is thus being earmarked under Technical Assistance to provide the required software.

1.43 SFW's proposal to reduce gradonis to 400/mt ha is acceptable in flatter areas.

1.44 Continue the social security scheme for tribal family woodlots only as a pilot experiment.

URBAN FUELWOOD

Status and Issues:

1.45 Review of this component suggests that the objective of providing fuelwood to cities and towns where demand is high has not been met: These efforts are confined to only the Panam command area, far from urban areas. Furthermore, only 64% of the first 3 years' target has been achieved.

Recommended Action:

1.46 Discontinue this capital-intensive component.

RESEARCH

Status and Issues:

1.53 The State Forest Research Unit of Rajpipla, along with its three research centres at Mehsana, Bhuj and Bhavnagar (each situated in a different agro-climatic zone), have made considerable progress in identifying suitable species for fencing; measuring growth of Eucalyptus hybrid at different spacings on different soils; determining the effect of soil working and micro-nutrient/fertilizer application on growth of E. hybrid; conducting provenance trials of Eucalyptus, and assessing the suitability of species like Casuarina cunnighamiana, Dichrostachys cinerea and Colophospermum mopane.

1.54 In addition, on-farm adaptive field research activities in agroforestry have also been carried out primarily with Eucalyptus. The results of most of these experiments are now available in the form of a research report and have been sent to all Social Forestry Divisions in the State. The research plan for the future primarily focuses on: 1) reducing the unit cost of plantations through successful propogation by seed sowing (under irrigated and rainfed conditions) and stump planting (irrigated conditions); 2) comparing growth/yield of various species under irrigated conditions; and 3) identifying species and technologies for saline areas.

Recommended Action:

1.55 Future research should also focus on issues such as:

a) Seed quality improvement -- initially through the selection of plus trees and thereafter through the development of seed orchards of common social forestry species

b) species trials for arid regions with Acacia albida, Prosopis tamarugo, P. fortunae, and P. Palida.

c) Agroforestry research by the department on marginal lands, under different conditions -- in addition to further intensifying and diversifying the scope of the on-farm research on farmers' fields already being undertaken. This model assumes particular importance in relation to small/marginal farmers' participation in the social forestry program as suitable models can meet immediate subsistence needs and also provide long term, wood-based resource needs.

1.56 Make practical use of research results, for example:

a) demonstrated research evidence of increased productivity per unit area will clearly encourage farmer acceptance;

STRIP PLANTATIONS

Status and Issues:

1.47 About 77% of project's first 3 years' target has been attained. It is expected that about 12,000 ha would be achieved under this component against the total target of 15,000 ha. The SFW proposal for widening the spacing between the first and second rows of roadside plantation to 3 mt (instead of 2 mt) has been agreed to in view of the field operational problems encountered. The spacing between subsequent rows and within rows for roadside, rail and canalside plantations, however, continues to be 2 mt. The consequent reduction of plant density is marginal. The mission, however, observed that the selection of species and spacing is not related to management objectives.

Recommended Action:

1.48 Make species selection and mixture choices according to site-specific management objectives, with a focus on coppicing fuelwood trees on village road sites.

FUELSAVING DEVICES

Status and Issues:

1.49 The Department of Non-Conventional Energy (DNE) has initiated a large program of popularizing smokeless stoves in the State. To avoid duplication of initiatives, given the limited State budget and because the project cannot provide the intensive extension work required, this sub-component should be dropped from the project.

1.50 Of the 600 crematoria provided for the first three years of the project, only 60 have been built so far. In all, 322 crematoria are expected to be established against a total target of 1000. The SFW has proposed the introduction of a higher-cost model (Rs 7000 against 5300) to alleviate the need for constant maintenance and to increase the life of this device. There is a question as to whether individual crematoria are used by a variety of castes in the same village. A review of the experience to date is needed to evaluate whether crematoria should be targetted only to high-population areas, where they are more cost-effective.

Recommended Action

1.51 Drop the smokeless stove program from the project.

1.52 Adopt the higher cost crematoria model and based on a review of current experience, target high population sites to ensure cost-effectiveness.

b) rigorous analysis of existing technical knowledge, coupled with practical field research in priority areas, will be able to address the issues of increasing productivity;

c) a wider range of technical options will make it possible to collaterally address social and environmental issues.

1.57 A separate line item of Rs 2 million should be created for research through departmental and collaborative research programs.

TRAINING AND EXTENSION

Status and Issues:

1.58 The Rajpipla Training Institution, along with its satellite Forest Training Centre at Kakrapara, are currently undertaking the following social forestry staff training courses:

a) Three month courses for Forest Rangers (FR) trained in traditional forestry prior to 1980. So far 34 FRs have been trained in two batches.

b) Eight month courses in Social Forestry for the Foresters (Frs). As all the Foresters in SFW have already been trained through this course, it has been temporarily discontinued.

1.59 In addition to staff training, the Institute also undertakes short (4-6 days) orientation courses for social workers, bankers, other government officials, teachers and the like. So far, 2,636 individuals have taken these courses.

1.60 These efforts of the Institute are further supplemented by ten day extension training courses for Forest Rangers and Foresters at the Extension Education Center, Anand (MOA, GOI). About 50% of the SFW Foresters and Rangers have been trained here so far.

1.61 The field staff have made a concerted effort to improve the coverage and quality of extension messages to all categories of farmers. This has been possible by assigning seedling production and extension responsibilities to a specific cadre of field staff. They are also employing some new approaches, such as a household planting package and a village saturation approach.

1.62 There is still a need, however, to systematically investigate farmers' present strategies and attitudes across social strata and bio-physical conditions. Based on this analysis, it would be possible for SFW to distill some of the existing technical know-how in the department and prepare more appropriate and refined extension messages with built-in flexibility. They should also identify areas that require further research. Over the long term, a close liaison must be maintained between the research and extension wings of the department to facilitate the dissemination of research results.

Recommended Action:

1.63 To improve training efforts, the following actions are needed:

a) Train the balance of Forest Rangers (FRs) in the 3 month course in social forestry at Rajpipla.

b) Train Forest Guards in social forestry since this cadre forms the most important linkage between the Forest Department and the people.

c) Introduce microplanning (through one or two lectures and also field demonstration) in the curricula for Forest Rangers (FR) and Foresters (Frs).

d) Collaborate more intensively with the EEC, Anand for staff training at Rajpipla and Anand.

e) Initiate a study to investigate farmers' present strategies and attitudes across different socio-economic strata and bio-physical conditions.

f) Synthesize existing technical knowledge to prepare concrete extension messages.

BUDGET, FINANCE AND AUDIT

Status and Issues:

1.64 Rs 356 M has been allocated during the first three years and another Rs 326 M is expected in the remaining two years for project activities. Thus the total outlay during the entire project period is expected to be around Rs 682 M (excluding first phase staff salaries), against the original budget estimate of Rs 1,296 M. Intra-component budgetary adjustments have been carried out, based on the relative progress of different components or variation in costs. It is, however, inevitable that by end of projectt the eventual shortfall will be about Rs 614 M, even after including about Rs 80 M expected as reimbursable during the next two years, reared by drought relief.

1.65 The District Rural Development Aurthority (DRDA) is also undertaking sizeable forestry-related, wasteland development activities (Rs 170 M out of a total of Rs 1,600 M) in the State through the Gujarat Land Development Corporation, Forest Dept./SFW, Gujarat Rural Development Corporation (Gram Panchayats, NGOs) and its own organization consisting of 19 Assistant Conservators of Forest and 38 Forest Rangers deputed from SFW. Additional funds had been made available to SFW through DRDA for project activities.

1.66 However, no IDA/USAID reimbursement has been claimed for these expenditures, as allocation is not routed through the Forest Department. This has resulted in an apparent disparity between physical and financial achievements. As mentioned earlier, reimbursement would be claimed from IFY 88-89 for some of these amounts allocated to the department for project activities.

1.67 Given the national mandate for increased afforestation, the budgetary shortfall has primarily affected the sanctioning of incremental staff, construction of buildings, procurement of vehicles/equipment and activities like studies and technical assistance. As such shortfalls are likely to persist, particularly in view of continued drought in the State for the last three years, it is less than likely that substantial allocations can be provided by SFW for support facilities.

Recommended Action:

1.68 Make all appropriate efforts to increase the overall budgetary level for the project. A complementary resource allocation should be made to obtain a balanced program.

ORGANIZATION AND MANAGEMENT

Status and Issues:

1.69 The existing organizational structure for project implementation with separate Circles, Divisions, and Ranges under the CCF, Social Forestry is working satisfactorily in coordination with the other two wings in the State (i.e., Development/Management and Environment). At each taluka level there are two Ranges - one dealing with the project plantation programs (strip, CWL, RDA) and the other exclusively with extension with responsibility for raising seedlings in nurseries for distribution. This enables extension staff to focus exclusively on motivation.

1.70 The project provides for Lady Forest Guards (LFG) but due to budgetary constraints, no effort has been made to recruit this female cadre of incremental staff. Such staff are extremely important to reach village women with information about project activities and to involve them in community management issues.

1.71 The Forest Dept/SFW has no knowledge about social forestry works being undertaken by agencies other than the department. There is virtually no coordination of activities.

Recommended Action:

1.72 Recruit LFGs to the extent possible in future.

1.73 Develop a suitable mechanism to coordinate all social forestry works carried out by various agencies in the State.

MONITORING AND EVALUATION

Status and Issues:

1.74 SFW has made considerable progress in establishing the unit and operationalizing the computerized system for data analysis. There is, however, a need for technical assistance to help the unit reconfigure existing software to suit local requirements.

1.75 Sample surveys have been conducted, following the recommended guidelines (found in "the Redbook") for 1985 farm forestry and community woodlots and for strip plantations up to 1987, but the data remain to be analyzed.

1.76 The post of CF (Addl. CCF)/M&E has been vacant since early 1987. This has clearly stymied the initial progress attained in M&E and has constrained the effective functioning of this unit.

Recommended Action:

1.77 Analyze data for farm forestry, village woodlots and strip plantations and initiate further evaluative survey work.

1.78 Obtain technical assistance for computer software.

1.79 Fill the post of CF/M&E (or Additional CCF) as soon as possible.

NON-GOVERNMENTAL ORGANIZATIONS

Status and Issues:

1.80 There are many NGOs which have taken up forestry activities, many with grants from the National Wasteland Development Board, GOI. There is no good base of information regarding the area of plantation covered through these efforts, the relative cost of plantation established, or the ability of these organizations to carry out an expanded program on a sustained basis. So far, a consistent strategy for collaboration between SFW and these organizations has also been lacking. There is a need to identify respective strengths and weaknesses of both and develop a mutually supportive environment.

Recommended Action:

1.81 Conduct a survey of NGOs in the State and organize a workshop to explore possible forms of NGO collaboration in decentralized seedling production, facilitating community management, and training and extension of villagers.

WOMEN

Status and Issues:

1.82 Thus far, no specific data have been collected on women's roles in forestry in Gujarat for planning purposes or to orient field staff. A special study would generate very important information regarding women's use of forest products, on and off-farm preferences for a flow of fuel, fodder, and fruits from plantations, and possible channels for reaching women with extension messages. A large percentage of nursery and plantation employment goes to women in this State. Women nursery workers would make ideal candidates for kisan nursery operators, since they are already trained in seedling care.

Recommended Action:

1.83 A special study should be conducted on women's roles in forestry, including their use of forest products for subsistence household needs and income generating enterprises. The results should be used as a basis of technical model development and for developing specific training curricula on women's role in the project.

Table 1.01: BUDGET ALLOCATIONS FOR THE GUJARAT SUBPROJECT
(Rs Millions)

YEAR	EXCLUDING FIRST PHASE STAFF	INCLUDING FIRST PHASE STAFF
IFY 85/86 (Including '0' Year)		
Project Allocation		
1. P.P. Target	228.4	--
2. Actually Placed	105.6	172.2
IFY 86/87 (Project Allocation)		
3. P.P.Target	224.2	224.2
4. Actually Placed	106.4	173.7
IFY 87/88 (Project Allocation)		
5. P.P. Target	265.5	265.5
6. Actually Placed	143.9	185.0
7. Cumulative PP Target thru March 31,1988 (1+3+5)	718.1	781.1
8. Cumulative State Budget Allocation thru (2+4+6)	355.9	530.9
9. Cumulative Budgetary Deficit thru March 31, 1988 (7-8)	362.2	187.2
IFY 88/89		
10. P.P. Target	310.9	310.9
11. Estimated Budget Allocation	151.8	234.6
IFY 89/90		
12. P.P.Target	267.5	267.5
13. Estimated Budget Allocation	174.3	257.1
14. Original Total Target (PP) 7+10+12	1296.5	1296.5
15. Revised Total Target (8+11+13)	682.0	1022.6
16. Cumulative Estimated Deficit Over Project Period (14-15)	614.5	273.9

TABLE 1.02
Gujarat Subproject

Plantation Physical Targets and Achievements (Ha)

Project Component	IFY P.P. Target	85/86 Ach.	P.P Target	86/87 Ach.	P.P. Target	87/88 Ach.	88/89 Revised Target	89/90 Revised Target	Original Total Target (P.P.)	Revised Total Target
1	2	3	4	5	6	7	8	9	10	11
A. Agroforestry										
Farm Forestry										
(P)	26,667	69,246	26,667	62,186	26,667	48,000	40,000	40,000	133,333	259,432
(B)	13,333	9,087	13,333	15,547	13,333	12,000	20,000	20,000	66,667	76,634
Private Wasteland	4,600	3,405	5,600	3,721	6,100	3,350	6,700	5,400	30,500	22,576
B. Community Woodlots										
Rainfed	4,000	3,172	4,000	2,256	4,000	2,256	3,100	3,900	20,000	14,684
Irrigated	1,000	877	1,000	418	1,000	741	750	1,000	5,000	3,796
Irrigated Tree Fodder	1,000	Nil	1,500	Nil	2,500	Nil	200	200	10,000	400
C. Wasteland Plantation										
RDF	5,200	5,804	5,700	4,615	6,500	5,825	5,000	7,500	30,400	28,744
Strip	3,000	2,868	3,000	1,878	3,000	2,175	2,300	3,000	15,000	12,221
Urban Fuelwood	400	375	400	100	500	360	Nil	Nil	2,500	835
Grand Total	59,200	94,834	61,200	90,721	63,600	74,707	78,050	81,000	313,400	419,312

Note: P = Polypot Seedlings.
B = Basket Seedlings.

TABLE 1.03

GUJARAT SUBPROJECT

Physical Targets and Achievements (No)

	85/86 PP Target	Ach.	86/87 PP Target	Ach.	87/88 PP Target	Ach.	Cumulative Actu thru March 88	88/89 PP Target	89/90 PP Target	Original Total Target	Revised Total Target
Staff Training Domestic	289	130	289	231	289	229	590	319	309	1,585	1,218
Staff Training (International)	7	3	7	5	6	6	14	6	6	32	26
Farmer Training	6000	1860	6000	28710	6000	15000	45570	6000	6000	30000	57570
Civil Works	122	Nil	123	7	121	115	122	116	64	550	306
Vehicle Procurement	45	Nil	34	9	33	12	21	26	37	175	84
Key Incremental Staff	185	175	185	175	185	175	175	185	185	185	185

Note: Staff Training: Manmonth and Manyear replaced by number of persons
Farmer Training: Each camp/visit taken to comprise of 30 persons.

Key incremental staff actually in position on March 31 each year

TABLE 1.04 EXTENDED PACD

Gujarat Subproject

Plantation Physical Targets and Achievements (Ha)
with PACD 31 Dec. 1990 (including 90/91 plantation activities)

Project Component	IFY P.P. Target	85/86 Ach.	P.P Target	86/87 Ach.	P.P. Target	87/88 Ach.	88/89 Revised Target	89/90 Revised Target	90/91 Revised Target	Original Total Target (P.P.)	Revised Total Target with LOP Dec 1990
1	2	3	4	5	6	7	8	9	10	11	12
A. Agroforestry											
Farm Forestry											
(P)	26.667	69,246	26,667	62,186	26,667	48,000	40,000	40000	40,000	133,333	299,432
(B)	13.333	9,087	13,333	15,547	13,333	12,000	20,000	20000	20,000	66,667	96,634
Private Wasteland	4.600	3,405	5,600	3,721	6,100	3,350	6,700	5400	5,400	30,500	27,976
B. Community Woodlots											
Rainfed	4,000	3,172	4,000	2,256	4,000	2,256	3,100	3900	3,900	20,000	18,584
Irrigated	1,000	877	1,000	418	1,000	741	750	1000	1,000	5,000	4,786
Irrigated Tree Fodder	1.000	Nil	1,500	Nil	2,500	Nil	200	200	200	10,000	600
C. Wasteland Plantation											
RDF	5,200	5,804	5,700	4,615	6,500	5,825	5,000	7500	7,500	30,400	36,244
Strip	3,000	2,868	3,000	1,878	3,000	2,175	2,300	3000	3,000	15,000	15,221
Urban Fuelwood	400	375	400	100	500	360	Nil	Nil	Nil	2,500	835
Grand Total	55,200	94,834	61,200	90,721	63,600	74,707	78,050	81000	81,000	313,400	500,312

Note: P = Polypot Seedlings.
B = Basket Seedlings.

INDIA NATIONAL SOCIAL FORESTRY PROJECT MIDTERM REVIEW

GUJARAT ACTION PLAN

RECOMMENDED ACTION	TARGET DATE	RESPONSIBLE AGENCY
Farm Forestry		
1. Develop new seedling pricing policy for different species and confine free distribution to low cost basket seedlings.	March 1989	SFD
2. Expand the list of species to be exempted from felling/transportation restrictions in existing legislation.	March 1989	SFD/Revenue Dept./GOI/GOG
3. Amend the project agreement (PIL) to reflect modified targets.	Oct. 1988	IDA/USAID/GOI
Private Wasteland		
1. Amend the loan agreement (PIL) to reflect modified target and land/beneficiary selection criteria.	Oct. 1988	SFD/USAID/IDA/GOI/GOG
Community Woodlots		
1. Issue Government Order to ensure that product distribution/disposal guideline for woodlots on panchayat land is applicable to the woodlots on revenue land also.	Dec. 1989	SFD/Revenue Dept.
2. Amend the loan agreement (PIL) to reflect modified target.	Oct. 1988	GOI/USAID/IDA
3. Introduce new sustained yield models with a second story, to address environmental and social concerns.	June 1988	SFD
4. Prepare pilot program to experiment with decentralized management with appropriate local institutions.	Mar. 1989	SFD

RECOMMENDED ACTION	TARGET DATE	RESPONSIBLE AGENCY
5. Review Panchayat Act to identify and propose needed modifications.	Oct. 1988	SFD
6. Conduct study to assess impact of product distribution from harvesting.	Dec. 1988	SFD/SFD Consultants
7. Amend project agreement (PIL) to reflect a revised fodder lot target to be implemented through a pilot program.	Oct. 1988	SFD/IDA/ NDDB/GOI/ GOG
8. Submit estimates for irrigated woodlots with increased spacing.	Sept. 1988	SFD
Rehabilitation of Degraded Areas (RDA)		
1. Reduce length of gradonis in in flatter sites.	Mar. 1989	SFD
2. Provide new technical models to address environmental and social concerns.	Dec. 1988	SFD
3. Introduce pilot effort in land capability mapping with USAID technical assistance.	Mar. 1989	USAID/SFD/ IDA
Urban Fuelwood		
1. Amend loan agreement to reflect discontinuation of this component.	Oct. 1988	SFD/USAID/ IDA/GOI/GOG
Strip Plantations		
1. Increase spacing between the first and second rows for roadside plantations.	Dec. 1988	SFD
2. Make species choice and spacing more site specific within the broad number of trees per hectare to reflect management objectives.	June 1988	SFD
Fuel Saving Devices		
1. Provide revised detailed cost estimate for crematoria.	June 1988	SFD
2. Redirect efforts towards semi-urban areas.	June 1988	SFD

2.46 At the time of the review, no M&E study had been conducted to assess degree of chulha use and fuel savings effectiveness. Field visits revealed that in many sites the stoves were broken, not in use, wrongly constructed and had their dampers removed. The mission therefore felt such a study should be immediately conducted before expanding the program.

2.47 There appeared to be considerable evidence that, as with similar programs elsewhere in the world, the stove model was inappropriate to the housewife's cooking requirements (i.e., the need to bake roti (bread) in the fire and cater to large families), complex to maintain, potentially the cause of fires, and insufficiently supported by applied research and follow-up extension. While the program served a positive role in bringing forestry extension agents into direct contact with women and was enthusiastically supported by the FD, the ability to achieve the objectives with such chulhas and subsidized pressure cookers is currently an open question.

Recommended Action:

2.48 Pending the results of the M&E study, it is recommended that the program be reshaped into a pilot effort, concentrated in a few areas with the original targets for improved chulhas. This should be done in collaboration with a local research institution and an outside consultant in order to develop more suitable chulha models.

2.49 Increase the target for improved crematoria to 50 per year with a submission of a new model (e.g., the Gujarat iron model). Sheds should be installed mainly near towns and large villages with high population concentrations willing to share facilities across caste boundaries. The FD would provide estimates for this model.

2.50 Change the target for the pressure cooker program to 5000 over the life of the project on the condition that an evaluation study is undertaken and that the cookers are distributed through VDCs to families below the poverty line.

RESEARCH

Status and Issues:

2.51 The FD has collaborated with the Y.S. Parmer University of Horticulture and Forestry at Solan to develop a set of research proposals to be financed under the project. In discussions with the review mission at the FD and the University, it was agreed to modify these proposals and to develop a priority research program for social forestry. This would be done in a small meeting between the FD and the University, based on the outcome of a broader workshop to discuss various alternative technologies. The mission stressed the importance of research in agroforestry and soil and water conservation and assisted in the preliminary identification of the required topics. Such research is crucial to the future effectiveness of social forestry in the State.

RECOMMENDED ACTION	TARGET DATE	RESPONSIBLE AGENCY
Extension		
1. Prepare Technical Manual to match individual/group needs within sites.	March 1989	SFD/USAID
2. Synthesize existing technical knowledge to prepare concrete extension messages.	March 1989	SFD
Budget		
1. Increase budget allocation and complementary resource allocation for balanced program development.	June 1988 & Nov. 1989	SFD/GOG
2. Develop mechanism for coordinating all social forestry works in the State.	Dec. 1988	NWDB/SFD/ Revenue Dept./ GOG
Project/Credit Agreement		
1. Obtain final compliance for pending covenants 6.2(d) and 6.2(l) in Article 6 Special Covenants of the Project Agreement.	Oct. 1988	SFD/GOI/USAID

RECOMMENDED ACTION	TARGET DATE	RESPONSIBLE AGENCY
3. Amend loan agreement to reflect discontinuation of chula sub-component.	Oct. 1988	GOI/USAID/IDA
Research		
1. Implement recommended research program.	Sept. 1988	SFD
2. Amend project agreement to reflect new budget line item of Rs 2 M for program.	Oct. 1988	GOI/USAID/IDA
Training and Extension		
1. Substantially increase no. of staff training courses at all levels in social forestry with revised curricula through more extensive collaboration with relevant institutions.	Dec. 1988	SFD/ Institutes
Organization and Management		
1. Fill post of CF/M&E.	June 1988	SFD
2. Recruit progressively increasing number of LFGs to the extent possible.	June 1989	SFD
Monitoring and Evaluation		
1. Complete analysis of farm forestry strip plantation and village woodlot study.	Dec.1988	SFD
2. Provide technical assistance for computer software.	Dec.1988	SFD
NGOs		
1. Survey existing NGOs in State and organize a workshop to develop a strategy for collaboration.	Mar.1989	NWDB/NGOs/ USAID/SFD
Women		
1. Conduct study on women's roles in forestry in Gujarat as input into technical models development and new training curricula.	June 1989	SFD/USAID

INDIA NATIONAL SOCIAL FORESTRY PROJECT

AIDE MEMOIRE II: HIMACHAL PRADESH STATE SUBPROJECT

INTRODUCTION

2.01 As part of the overall midterm review of the National Social Forestry Project, a joint IDA/USAID mission visited Himachal Pradesh from Frbruary 16 - 26, 1988 to review the progress of the Himachal Pradesh subproject.

2.02 The mission visited selected project activities in Nalagarh, Bilaspur, Hamirpur, Palampur, Dharamsala, Nurpur, Dehra, Una, Jogindarnagar, Mandi, Sundarnagar, Kursoeg, and Shimla Forest Divisions. Extensive discussions with Forest Department officers and field staff, field inspections, and interviews with villagers and women's groups were carried out.

2.03 The mission was accompanied by Mr. D.R. Dhiman (CF, Social Forestry) and met with most of the CFs, DFOs, ACFs, and ROs in each of the Circles. At the completion of the field visits, discussions were held with PCCF, CCF (P&D), CCF (Settlement), ACCF (M&E) and Secretary of Forests in Shimla, and procedures for completing the review were agreed upon.

2.04 This Aide Memoire addresses the operational aspects of the Himachal Pradesh subproject, particularly the mid-course changes in project implementation proposed by the State or recommended by the mission. It should be read in the context of the overall midterm review document in which the project's progress in achieving its objectives and the substantive issues involved are discussed in depth. At the end of this Aide Memoire, Himachal Pradesh subproject budget allocation figures are presented in Table 2.01; overall plantation and physical achievements are presented in Tables 2.02 and 2.03; and revised cost estimates for the project are presented in Table 2.04. The operational changes proposed for the remainder of the project are summarized in the Action Plan.

GENERAL

2.05 Considering the fact that social forestry on a large scale was only started in H.P. with the initiation of the NSFP in 1985-86, considerable progress has been achieved in meeting the objectives set by the project. Strong budgetary and administrative support from the State Government has assisted the Forest Department in hiring most of the needed additional staff and increasing the ability of field staff to meet physical targets. Drought conditions and unrealistic original projections, however, will require some readjustments of overall project targets to compensate for the shortfall in farm forestry.

2.06 The H.P. Forest Department has also made considerable progress with some of the essential supporting components of social forestry. Over 2,000 staff have been trained in a short course in social forestry. Twenty-five Lady Forest Guards have been recruited and placed in field divisions. They are demonstrating strong capabilities for social forestry extension, particularly with the large numbers of Mahila Mandals (village women's organizations) found in the State. Village Development Committees (VDCs) have been established in many districts and a large number of Integrated Resource Management Plans (IRMPs) drawn up for plantation activities.

2.07 After a slow start, monitoring and evaluation work has commenced in earnest and the first survey reports published provide valuable guidance for future activities. An extension workshop was held which identified the key elements to an effective extension approach. Lower level field staff are beginning to appreciate the changes in approach required by social forestry in contrast to traditional forestry.

2.08 However, there are a number of areas in which additional changes are required to more effectively achieve the project goals. In addition to modifying targets according to experience gained to date (reducing some, increasing others, and dropping unrealistic components), considerable attention needs to be devoted to introducing technical models for plantation which better meet both the socio-economic and environmental objectives of the project.

2.09 This effort needs to be supported by greatly strengthened research and expanded training. In addition, administrative and legislative hurdles to more effective farmer participation need to be removed to enable greater expansion of the complex agroforestry systems practiced in the State. These and related issues are dealt with in the remainder of this Aide Memoire.

FARM FORESTRY

Status and Issues:

2.10 By the end of 1987/88, 71% of the target to date, or 26.9 million seedlings (equivalent to 19,703 ha), were sold to farmers at a subsidized rate (currently Rs 0.15 per seedling---actual cost in H.P. is approximately Rs 1.00). This represents approximately 37% of the total project target.

2.11 According to the M&E sample survey, 42% of the farmers taking seedlings were below the poverty line and the average holdings of all farmers was 1.9 ha. The average farmer took between 100-200 seedlings for his own use, of which 61% were Eucalyptus and the remainder a mixture of fuel and fodder species with particular emphasis on Robinia and Poplar.

2.12 A total of 98% of the seedlings were planted on boundaries (70%) or previously fallow land (28%), primarily for domestic uses. Survival rates averaged around 45%, with lower rates obtained by marginal farmers and in homestead plantings and higher rates obtained by larger farmers planting in blocks, especially with Eucalyptus (62% survival).

2.13 Except in a few southern districts where species such as Eucalyptus can be planted for quick growth, farm forestry in H.P. is closely integrated into the farming and household systems through various forms of agroforestry that farmers have practiced for generations. To further accelerate these practices, farmers must have the rights and means of harvesting these trees at times of their own need and choice. Current laws restrict tree felling to a 10 year cycle. Although theoretically trees planted under social forestry are exempted from this restriction by a government decision, in practice there is no registration of trees and no knowledge of this exemption by the public. For this reason, the government is being requested to reexamine this issue.

2.14 Farmers must also be able to obtain conveniently the desired quantity of seedlings of the species of their choice. While the establishment of some kisan (farmer) nurseries has helped in this regard, there are still insufficient numbers of local kisan nurseries and insufficient numbers of highly desired and more expensive fodder and fruit/multipurpose seedlings.

2.15 The H.P./FD has proposed a reduction of the total project target from 53,000 notional hectares (80 million seedlings) to 37,000 ha (55 m seedlings), a reduction of 30%, and that the target be reallocated to various public land plantation components. In addition to an unrealistically high initial projection, the reasons for reducing the target are that H.P. farmers have small landholdings, have little potential for growing large numbers of commercial trees, and devote much of their land to horticulture trees.

Recommended Action:

2.16 Remove the ten year felling cycle restrictions for all on-farm agroforestry trees, excluding commercial natural forest species identified by FD, but including those planted prior to the start of the social forestry project. Provide widespread publicity for this action.

2.17 Set separate annual targets for raising more costly and valuable fodder and fruit/multipurpose seedling species in both department and kisan nurseries to ensure the availability of these desired agroforestry species. Review pricing policies with a view to stimulating private production.

2.18 Increase the number of kisan nurseries, especially those operated by women.

2.19 Provide short training courses in nursery management, seedling propagation, and tree husbandry to all nursery operators (kisan and departmental).

2.20 Reduce the overall project target by 16,000 notional hectares.

PRIVATE WASTELAND PLANTING

Status and Issues:

2.21 This component consists of two alternatives under which the FD subsidizes a group of farmers to plant up their own degraded lands: Alternative I is 100% subsidized and costs are expected to be recovered after 15 years or more, without interest. In Alternative II, material inputs consisting of fencing and seedlings are provided free of cost--a 40% subsidy--and no recovery is required.

2.22 Target achievement has steadily increased from 42% the first year to 118% in 1987/88, for a total cumulative achievement of 83% (5871 ha) to date. Although the requirements were relaxed somewhat after the first year, the areas taken up have to meet certain criteria of degradation, contiguity of ownership, minimum overall size, and maximum size per farm household. No monitoring survey has yet been conducted. The breakdown of numbers of hectares planted under the two alternatives is not known, but the FD has proposed that in the future it should be roughly 50% each.

2.23 The FD has frequently noted that it is difficult to find lands and groups of farmers which meet the criteria set out during project design. They have also indicated that many farmers have only shown interest if they are offered 100% subsidy. Limited field inspections have also indicated that in many cases the criteria that the land should be degraded or subject to heavy erosion has not been met. For these reasons, the FD proposes further relaxation of the criteria to meet project targets.

2.24 While this component does have the positive environmental and socio-economic effect of closing private areas previously subject to uncontrolled grazing and does allow individual harvest of the resultant grass, a number of problematic concerns were also identified. The use of the 100% subsidy alternative is likely serving as a disincentive to individual farmers in taking up farm forestry and will create an extraordinary administrative load in the future when costs are meant to be recovered. The current technical model used promotes close tree spacing which will quickly reduce grass yields. The use of Section 38 of the Forestry Act (whereby the FD legally takes over the land for 15 years) imposes severe restrictions on farmers wishing to cut any of their trees or to switch to alternative production systems.

Recommended Action:

2.25 Phase out Alternative I, with its 100% subsidy and later cost recovery, during the 1988 planting season. Confine activities for the remainder of the project to Alternative II, with the provision of free inputs in kind.

2.26 Phase out the use of Section 38 notification along with Alternative I. It does not need to be used for Alternative II.

2.27 Present participating farmers with new technical options, including silvopastoral models with wider spacing of fodder/multipurpose trees and the use of live brush fencing.

2.28 Relax the criteria for Alternative II to a minimum of 2 hectares and 3 participating farmers, with no maximum per farmer.

TREE TENURE (GROUP FARM FORESTRY)

Status and Issues:

2.29 Against the three years' target through 1987/88 of 373 notional hectares, 325 ha or 87% has been achieved. According to the sample survey conducted by the M&E unit, the overall survival is 40%. A wide variety of species has been planted in the five Divisions in which this program has been initiated, with Eucalyptus accounting for only 35% of the total. However, the survival rate for all species except Eucalyptus (68%) is less than 30%. Since these trees are planted on public lands with thorn protection for each individual seedlings at the most, high mortality rates are likely, due to damage by livestock.

2.29 While there is currently a proposal pending with the State Government to establish a legal basis for promoting tree tenure for marginal farmers and landless villagers, there has been no written assurance provided to date to the beneficiary that the trees will belong to him. There also appears to be no generally followed criteria for the selection of beneficiaries or for the demarcation of areas allotted for planting. Cost figures provided to date are extremely high.

Recommended Action:

2.30 The FD should prepare a note on the legal status, procedures and costs of this component to decide on the cancellation of this component or its continuation as a pilot program.

COMMUNITY WOODLOTS AND THE REHABILITATION OF DEGRADED FORESTS (RDF)

Status and Issues:

2.31 Overall, 109% of the community woodlot physical targets, or 24,500 hectares, have been planted and 4,347 ha or 174% of the target of rehabilitation of degraded forests. The FD has requested that the target for community woodlots be increased by 11,469 ha and that of RDF by 6,000 ha, in part to compensate for the reduction in farm forestry

2.32 The main species planted in both woodlots and RDF plantations are Acacia catechu, Robinia, Poplar, Chil Pine, and Blue Pine, with a greater emphasis on a mixture of broadleaf fodder and fuel species in the community woodlots (rainfed). Survival rates for community woodlots have not been surveyed; however, according to a sample survey of RDF plantations, the survival rate averages 58%, with higher rates found in the lower and middle ecological zones.

2.33 Considerable progress has been made with the development of a large number of Integrated Resource Management Plans (IRMPs) and Village Development Committees (VDCs). However, while the technical models adopted show some encouraging signs of increased use of broadleaf species, they still mostly conform to traditional timber models in terms of spacing and management. This reflects the fact that the involvement of VDCs in IRMP preparation is still largely nominal, without real alternatives being presented to local communities.

2.34 In addition to this, no legal settlement has yet been obtained for many of the lands on which community forests have been established. These two factors plus the lack of Government Orders authorizing any sharing of the final harvest for the local community mean that there is virtually no difference between community woodlots and rehabilitation of degraded forests. The local people's rights to grass, fuelwood, lopping and timber for household requirements--which are extensive in H.P.--are the same in both categories of plantations.

2.35 Examples of genuine community forestry can be found in H.P., both in the traditional "rakha" (protected) forests, where local people hire their own guards, and in the Cooperative Forest Societies set up in the old Kangra District in the 1940s. Over 70 of these Societies were established, covering over 23,000 hectares. While opinions differ, it is apparent that many of these Societies functioned well. But since some were mismanaged, the registration of the Societies was discontinued in 1974.

2.36 A committee has been established by the State Government to examine the possibility of revitalizing the forest cooperatives and to make recommendations on the possibility of establishing VDCs as legal entities and providing legal benefit sharing of final harvest with panchayats and/or VDCs.

Recommended Action:

2.37 Develop and present to the VDCs before plantation alternative low cost technical models for the different ecological zones. These models should provide for increased intermediate socio-economic and environmental benefits through wider spacing and the planting of bushes, grasses, and legumes on contour furrows.

2.38 Revise IRMP formats and preparation procedures to include group discussion of technical alternatives. This would place emphasis on socially manageable prescriptions for forest protection and use and on assuring continuous product flow. Provisions should be made to record the data on the harvesting of products including grass and fuelwood.

2.39 Discuss the findings of the committee described above should be discussed at a meeting with wide representation.

2.40 Accept the increase in the target to 11,469 ha for community woodlots and to 6,000 ha for RDF for remaining two years of the project. Modify the project agreement accordingly.

SILVOPASTORAL AND SOIL AND WATER CONSERVATION (Proposed)

Status and Issues:

2.41 The FD has proposed new components for the remainder of the project, including 6,000 ha of silvopastoral development (Rs 45.7 million) which would include extensive bench terracing as well as grass and bush sowing, and various water harvesting, storage, and controlling structures (Rs 23 million).

2.42 The introduction of new silvopastoral models with increased soil and water conservation and grass, legumes and bush sowing has been strongly endorsed by the review mission, not only as a new sub-component, but as a technology which should be phased into all community woodlots and RDFs as a recommended alternative to existing timber oriented models. However, the review mission is skeptical about the need for extensive bench terracing and feels that the number of trees should also be reduced to allow for the pastoral aspects to be adequately developed without undue competition from closing canopies.

2.43 Since the utility of large numbers of water harvesting and controlling structures for soil conservation purposes is questionable, the main value for a limited number of water storage structures would be to serve as a motivating benefit to the local community in circumstances in which the water is actually usable for irrigation or livestock watering.

Recommended Action:

2.44 Add to the RDF component of the project an additional 6000 ha for silvopastoral plantation and soil and water conservation on the condition that a lower cost model, based on vegetative contour planting and sowing (instead of bench terraces) and wider spacing of trees is proposed. Introduced along with with this should be ponds, earthern dams, drop structures and check dams (05 purs). The FO should provide an estimate for this model which is less than Rs 7000/ha.

FUEL SAVING DEVICES

Status and Issues:

2.45 During 1986/87, the FD achieved 100% of its annual target for installing 1,000 improved chulhas (woodfuel stoves), 5 improved crematoria, and distributing 400 pressure cookers at subsidized rates. The improved chulhas are installed under the guidance of the Lady Forest Guards using the Dhauladhar model developed by the Indo-German Dhauladhar Project in Palampur. The FD has proposed an increase in project targets to 20,000 chulhas, 10,000 pressure cookers, and 250 crematoria in order to achieve a sufficient scale of impact. Improved chulhas are also being distributed through the Rural Development Department under a scheme of the GOI Department of Non-Conventional Energy.

Recommended Action:

2.52 Based on the outcome of the planned workshop to finalize the research program, the FD will contract with the Y.S.P. University to commence the research during 1988.

MONITORING AND EVALUATION

Status and Issues:

2.53 In the last year, the FD has made excellent progress in monitoring and evaluation. Sample surveys, following the recommended Guide, have been conducted for farm forestry, Rehabilitation of Degraded Forests, and tree tenure, and a price bulletin published. The microcomputer has been installed and is in operation. A full program of work has been planned for 1988/89, including a village woodlot study. All forestry field staff positions have been filled and the unit is headed by an Additional CCF.

2.54 In order to institutionalize the present momentum, it is crucial to hire the additional staff required from outside the FD (i.e., Sociologist, Economist, Statisticians, and Programmer) and to provide training in computer operation.

2.55 There is a major gap in the operation of the M&E unit with regard to quarterly reporting of data on field activities. At present, the required information is not received from DFOs and CFs, partly because the forms are too complicated and partly due to the absence of a clear chain of command in social forestry activities.

2.56 After initial delays, the wood balance study will now be started in cooperation with the Agro-Economic Research Centre located at H.P. University, Shimla. It will be combined with a study of farm forestry practices.

Recommended Action:

2.57 Hire crucial additional staff and provide computer training by USAID to the M&E Staff.

2.58 Finalize the contract for the two-phase wood balance study with AERC.

ORGANIZATION AND STAFFING

Status and Issues:

2.59 At present the social forestry project is organized primarily along the lines of territorial forestry: Field activities are executed by territorial staff reporting directly up the traditional line of command to the PCCF. In addition, a CF, Social Forestry and an ACCF, Monitoringhave been appointed at Headquarters, responsible to the CCF, Planning and Development, with several extension and monitoring divisions under each.

2.60 Each division has several designated social forestry extension staff (including, in many of them, a Lady Forest Guard) who are purely responsible for extension, without having any execution (plantation) functions. Each division is also supposed to have an ACF supervising social forestry work, but staff shortages, recent expansions in the numbers of divisions, and lack of a separate line of command have resulted in most social forestry work being conducted by territorial staff.

2.61 While this territorial organizational structure would appear to have the advantages of integrating territorial and social forestry work, experience over the first two years of project implementation has shown that it creates considerable difficulties. Field staff universally report that it is very difficult for them to function both as territorial policemen and social forestry extension agents. Headquarters staff responsible for social forestry and M&E have experienced difficulties in obtaining the needed level of cooperation and responsiveness from field staff over whom they have no direct supervisory authority.

2.62 For these reasons the FD has proposed changes in organization that would create separate, overlapping social forestry ranges, with execution powers, within each division . While this proposal should overcome some of the field problems, it still fails to address the need for a separate line of command up to the headquarters level.

2.63 The mission supports the long term organizational objective of developing a clear separation between territorial forestry functions (policing, commercial forestry) and social forestry (farm forestry, community woodlots and RDF for community/environmental use). To develop such an organizational structure, the mission supports the present proposal for overlapping ranges as a first step. It should, however, include a clear line of command to headquarters with a designated social forestry project manager.

2.64 To improve on the proposed organizational structure over time, it would be valuable to launch a resource information system survey which would indicate appropriate areas for social and territorial forestry on which specific organizational responsibilities could be based.

Recommended Action:

2.65 Implement the proposal for reorganizing social forestry activities so that there are separate executing field staff, as agreed by the FD, a clear line of command, and a project chief with specified authority over field officers. This reorganization would also require that the continuing management and harvesting required on social forestry plantations be delegated to the social forestry staff in order to continue to support the local community participation which has been initiated.

2.66 Provide for project funding for the additional incremental staff (estimated at 100 Deputy Rangers and 350 Forest Guards) needed as a result of creating social forestry ranges and a separate line of command.
2.67 Given the effectiveness of the Lady Forest Guards, recruit a minimum of two Lady Forest Guards per division by using 50% of existing and coming vacancies for this purpose.

STAFF TRAINING AND PROPOSAL FOR EXPANSION OF FACILITIES AND TRAINING OF SCHOOL TEACHERS

Status and Issues:

2.68 The H.P. FD has made considerable progress with in-service, short term training for social forestry. Altogether 86 Senior Forest Officers, 253 Rangers and Deputy Rangers, 428 Forest Guards, and 84 administrative staff have received one to two weeks of social forestry orientation training. While a commendable effort, interviews with field staff reveal that even more intensive training (likely take at least 5 weeks) in new technologies, soil and water conservation, IRMP preparation, extension, and tree and plantation management are required. Social forestry ACFs and ROs should receive priority in this effort.

2.69 The shortage of training facilities at the Forestry Training School at Chail, which is limited to two batches of 60 per year, has caused a backlog of up to ten years in providing adequate technical training to forest guards and associated staff. It has also meant that to date, no Lady Forest Guards have received technical training.

2.70 To remedy this situation, the FD has proposed an expansion of these facilities to handle up to 495 trainees every year (including 93 from the Forest Corporation). The cost of these facilities would be Rs 16.5 million in capital investment, Rs. 1.3 million in non-recurring expenses, and Rs 2.3 million in annual recurring expenses of which 40% would be borne by the Forest Corporation.

2.71 The FD has also submitted a proposal to undertake the training of teachers from each school in H.P. (for a total of 1825 teachers) at five centres throughout the State on the subject of social forestry. The cost of such training amounts to Rs 500,000.

Recommended Action:

2.72 Establish an accelerated program for providing short term (five week) in-service training in social forestry.

2.73 Have FD prepare a detailed proposal for expanding the training facilities and program at Chail. This should be reviewed by GOHP and GOI and, if agreed, submitted by GOI to USAID and IDA for inclusion in the project agreement.

2.74 Submit a proposal for teacher training within remaining two years of the project.

PROPOSAL FOR THE ESTABLISHMENTS OF GO-SADANS (CATTLE HOMES)

Status and Issues:

2.75 The FD has proposed establishing a network of Go-Sadans (cattle homes) where farmers could surrender useless cattle for an incentive of Rs 100 each in order to reduce the grazing pressure and to encourage the keeping of higher value stall fed livestock. In the remaining two years of the project, 12 go-sadans would be established and run for a total cost of Rs 8.4 million. Each go-sadan would have a capacity of 100 cattle. However, based on the experience of the IGDP, most cattle die within two months, so the annual turnover is expected to be around 500 per year.

2.76 While the mission agrees with the overall objective of establishing go-sadans, past experience in IDA-supported projects has not been positive. The efficacy of go-sadans to reduce overgrazing remains a highly controversial subject. For these reasons, the mission feels that the overall objective could be better served by placing emphasis on the introduction of new silvopastoral models in community forests and RDFs. This would encourage stall feeding through the long term continuous production of grass/legumes grown between widely spaced trees. Better extension work with VDCs would develop contracts which would include the reduction of grazing and the implementation of range management techniques such as rotational grazing.

Recommended Action:

2.77 The establishment of go-sadans cannot be included in the project, but a study should be commissioned with a competent research institution, with technical assistance if required, to study range management and livestock grazing patterns, rights, and fees.

NON-GOVERNMENTAL ORGANIZATIONS

Status and Issues:

2.78 Although the FD has identified three NGOs working within the State, they are not supporting them in any direct fashion and have no NGO liaison program. The FD has, however, taken considerable initiative in working with Mahila Mandals (local women's organizations), VDCs (Village Development Committees), schools and in the issue of reviving the Cooperative Forest Societies. Support for both traditional NGOs and these other groups could be strengthened.

Recommended Action

2.79 Conduct a survey of NGOs active in H.P. with an interest in social forestry and also appoint a NGO nodal officer; then hold a workshop with them to establish means by which their work could be supported by the project and the NGOs could more actively participate in farm forestry and community woodlot establishment.

2.80 Establish a system of grants-in-aid for active Mahila Mandals, VDCs, and schools to serve as a reward and incentive for effective participation in the project.

VEHICLES AND TELEPHONES

Status and Issues:

2.81 The lack of vehicles and telephone communication at the Range level continues to hamper project execution in the field. Although 15 four wheel vehicles have been procured, the remaining 18 planned in the project are urgently required. Despite their urgent need in the field, none of the planned 125 motorcycles has been procured due to a lack of administrative approval and fears that maintenance will be difficult. It is suggested that these funds be converted into a loan pool available to social forestry staff, on a priority basis, for purchase of their own motorcycles.

Recommended Action:

2.82 Purchase the remaining 18 four wheel vehicles and convert the target for 125 motorcycles into a loan-and-operating-costs-fund for the priority purchase of individual motorcycles by social forestry field staff.

ACCOUNTS AND AUDIT

Status and Issues:

2.83 Audited accounts and SOEs have been submitted to IDA for the period ending March 31, 1986. The Accountant General noted in the audit that the project has not maintained separate project accounts as per Schedule 3.01 (a) of the Project Agreement. The FD has agreed to establish separate accounts from 1988-89.

2.84 IDA has not received audit accounts and SOEs for the period ending March 31, 1987. Since the deadline of submitting the certification of SOEs was March 31, 1988, IDA will not be able to continue disbursing against SOEs until this certificate has been received.

2.85 The mission has noted that there appears to be substantial increases in the unit cost of some components. Actual costs incurred need to be determined and justified.

Recommended Action:

2.86 Submit the audited accounts and SOEs for the period ending March 31, 1987 promptly.

2.87 Establish a separate project accounting system as soon as possible.

2.88 Submit actual units costs incurred (including breakdown between Alternatives I and II in Private Wasteland Planting) and provide justification for any changes.

Table 2.01: BUDGET ALLOCATIONS FOR THE HIMACHAL PRADESH SUBPROJECT
(Rs millions)

	YEAR	AMOUNT
IFY 85/86 (Including '0' Year)		
Project Allocation		
1.	P.P. Target	101.8
2.	Actually Placed	42.5
IFY 86/87 (Project Allocation)		
3.	P.P. Target	101.1
4.	Actually Placed	101.1
IFY 87/88 (Project Allocation)		
5.	P.P. Target	116.8
6.	Actually Placed	125.0
7.	Cumulative PP Target thru March 31,1988 (1+3+5)	319.7
8.	Cumulative State Budget Allocation thru March 31,1988 (2+4+6)	268.6
9.	Cumulative Budget Deficit thru Mar.31,1988 (7-8)	51.1
IFY 88/89		
10.	PP Target	137.7
11.	Estimated Budget Allocation	213.5
IFY 89/90		
12.	P.P. Target	115.6
13.	Estimated Budget Allocation	171.8
14.	Total PP Target (7+10+12)	573.0
15.	Revised Total Target (7+11+13)	653.9
16.	Cumulative Estimated Deficit Over Total Target (14-15)	80.9

TABLE 2.02
HIMACHAL PRADESH SUBPROJECT

Plantation Physical Targets and Achievements (Ha)

Project Component	IFY 85/86 PP Target	IFY 85/86 Achieve	86/87 PP Target	86/87 Achieve	87/88 PP Target	87/88 Achieve	88/89 Revised Target	89/90 Revised Target	Original Total Target (PP)	Revised Total Target
1	2	3	4	5	6	7	8	9	10	11
										(3+5+7+8+9)
Farm Forestry	8,000	4,550	9,300	6,324	10,400	8,829	10,666	6,631	53,000	37,000
Private Wasteland	2,100	890	2,350	1,913	2,600	3,068	3,537	3,592	13,000	13,000
Tree Tenure	60	39	113	67	200	219	293	215	833	833
Community Forest	6,850	6,860	7,400	7,873	8,200	9,767	13,031	11,469	41,000	49,000
Wasteland Plantation	750	1,484	750	1,128	1,000	1,735	2,570	2,083	5,000	9,000
Silvi Pastural RDF	0	0	0	0	0	0	2,000	2,000	0	4,000
Total Plantation	17,760	13,823	19,913	17,305	22,400	23,618	32,097	25,990	112,833	112,833

TABLE 2.03

HIMACHAL PRADESH SUBPROJECT

Physical Targets and Achievements (No)

	85/86 PP Target	Ach.	86/87 PP Target	Ach.	87/88 PP Target	Ach.	Cumulative Ach thru March 88	88/89 Revised Target	89/90 Revised Target	Original Total PP Target	Revised Total Target
Staff Training Domestic	120	0	196	1,959	208	767	2,726	198	191	913	3,115
Staff Training International	1	0	4	1	4	3	4	4	4	17	12
Farmers Training	1,050	0	2,100	2,292	2,100	2,040	4,332	2,100	2,100	9,450	8,532
Civil Works	65	0	79	82	65	85	167	65	60	334	292
Vehicle Procurement	93	2	42	17	34	0	19	33	32	234	84
Key Incremental Staff	609	524	609	601	609	609	609	609	609	609	609

Note: Key incremental staff acutally in position on March 31, each year

TABLE 2.04 EXTENDED PACD

HIMACHAL PRADESH SUBPROJECT

Plantation Physical Targets and Achievements (Ha)
with PACD 31 December 1990 (including 90/91 plantation activities

Project Component	IFY 85/86 PP Target	Ach.	86/87 PP Target	Ach.	87/88 PP Target	Ach.	88/89 Revised Target	89/90 Revised Target	90/91 Revised Target	Original Total Target (PP)	Revised Total Target
1	2	3	4	5	6	7	8	9	10	11	12
											(3+5+7+8+9)
Farm Forestry	8,000	4,550	9,300	6,324	10,400	8,829	10,666	6,631	6,631	53,000	43,631
Private Wasteland	2,100	890	2,350	1,913	2,600	3,068	3,537	3,592	3,592	13,000	16,592
Tree Tenure	60	39	113	67	200	219	293	215	215	833	1,048
Community Forest	6,850	6,860	7,400	7,873	8,200	9,767	13,031	11,469	11,469	41,000	60,469
Wasteland Plantation	750	1,484	750	1,128	1,000	1,735	2,570	2,083	2,083	5,000	11,083
Silvi Pastural RDF	0	0	0	0	0	0	2,000	2,000	2,000	0	6,000
Total Plantation	17,760	13,823	19,913	17,305	22,400	23,618	32,097	25,990	25,990	112,833	138,823

INDIA NATIONAL SOCIAL FORESTRY PROJECT MIDTERM REVIEW

HIMACHAL PRADESH ACTION PLAN

RECOMMENDED ACTION	TARGET DATE	RESPONSIBLE AGENCY
Farm Forestry		
1. Remove ten years felling cycle restrictions for all agroforestry trees on farm land and publicize.	March 1989	FD/GOHP
2. Set separate annual target for fodder and fruit/multipurpose seedling production and review pricing policy.	Sept. 1988	FD
3. Increase number of kisan nurseries (especially women-run).	Nov. 1988	FD
4. Establish training course for nursery operators.	March 1989	FD
5. Amend loan agreements (PIL) to reflect reduction in target by 16000 ha.	Nov. 1988	GOHP/GOI/ USAID/IDA
Private Wasteland Planting		
1. Phase out Alternative I during 1988/89 planting season and only Alternative II used thereafter.	March 1989	FD
2.Confine use of Section 38 notification to Alternative I.	Oct. 1988	FD
3. Introduce new silvopastoral model for participating farmers.	Oct. 1988	FD
Tree Tenure		
1. Prepare note on legal status, procedures and costs.	Oct. 1988	FD
2. Review component and decide future course.	Dec. 1988	FD/USAID/IDA
Community Woodlots & RDF		
1. Develop alternative low cost silvopastoral conservation models as options for VDC decision.	Oct. 1988	FD
2. Revise IRMP formats.	Dec. 1988	FD

RECOMMENDED ACTION	TARGET DATE	RESPONSIBLE AGENCY
3. Establish task force/committee for Forest Cooperatives and VDCs and prepare report.	March 1989	FD/USAID
4. Modify Loan Agreements (PIL) to increase targets by 17,469 ha.	Nov. 1988	GOI/GOHP/ USAID/IDA
Silvopastoral and Soil Conservation Proposal		
1. Develop low cost models for silvo-pastoral and soil and water conservation and provide estimates.	Sept. 1988	FD
2. Revise loan agreements to add 6,000 ha of silvopastoral and soil conservation at a cost of Rs 7,000 per ha.	Nov. 1988	FD/USAID/IDA GOI/GOHP
Fuel Saving Devices		
1. Conduct M&E studies on improved chulha use and impact of pressure cookers.	Dec. 1988	FD
2. Submit new model with estimates of crematoria for use in population centres.	Dec. 1988	FD
3. Revise targets for pressure cooker and confirm distribution policy to poor through VDCs.	Sept. 1988	FD
Research		
1. Submit to USAID/IDA for review research program and draft contracts with SAU based on workshop.	Nov. 1988	FD
2. Finalize contractural arrangements with SAU (YSP University).	Dec. 1988	FD/SAU
Monitoring and Evaluation		
1. Hire additional staff, prepare request for computer training for submission to USAID.	Oct. 1988	FD
2. Conduct training program.	June 1989	FD
3. Submit FD contract for wood balance study with AERC.	Sept. 1988	FD/AERC
4. Complete wood balance study.	Sept. 1989	AERC

RECOMMENDED ACTION	TARGET DATE	RESPONSIBLE AGENCY
Organization and Staffing		
1. Implement proposed reorganization for overlapping ranges, a clear line of authority and designated project chief.	Sept. 1988	FD/GOHP
2. Recruit additional Lady Forest Guards.	Feb. 1989	FD
3. Prepare Action Plan for resource information system survey and further rationalization of organizational structure.	March 1989	FD/USAID
Staff Training and Training Facilities		
1.Commence accelerated 5 week in-service training in social forestry.	Jan. 1989	FD
2.Submit official request to USAID/IDA proposal for expanding training facilities at Chail and providing teacher training.	Sept. 1988	GOHP/GOI
3. Review proposals and revise project agreements accordingly.	Nov. 1988	GOI/GOHP USAID/IDA
Go-Sadans		
1. Commission study with research institute that would provide a multidisciplinary team comprised of sociologists, range ecologist, forester and livestock experts on range management and livestock grazing patterns, rights and fees.	March 1989	FD
NGOs		
1. Conduct survey of active NGOs, appoint nodal officer and hold workshop.	March 1989	FD
ɔr providing grants-in- la Mandals, VDCs and A for review.	March 1989	FD
ones		
cles (cars and jeeps); converting motorcycle ɔan and operating cost review.	Nov. 1988	FD
le loan fund proposal and ɔcordingly.	Nov. 1988	IDA/GOI/ GOHP/USAID

RECOMMENDED ACTION	TARGET DATE	RESPONSIBLE AGENCY
Accounts and Audit		
1. Submit audited accounts and SOEs up to March 31, 1987 to IDA.	ASAP	FD/Auditor General
2. Establish separate project accounts.	Sept. 1988	FD
3. Submit actual unit costs incurred with justification.	Sept. 1988	FD
General		
1. Obtain final compliance for pending covenants 6.2(d), 6.2(e), 6.2(f) and 6.2(l) Article 6 Special Covenants of the Project Agreement.	Oct. 1988	FD/GOI/USAID

INDIA NATIONAL SOCIAL FORESTRY PROJECT

AIDE MEMOIRE III: RAJASTHAN STATE SUBPROJECT

INTRODUCTION

3.01 As part of the overall midterm review of the National Social Forestry Project, a joint IDA/USAID mission visited Rajasthan from 16 - 27 February, 1988 to review project progress and consider mid-course changes.

3.02 The mission visited selected project sites in the forest divisions of Bharatpur, Jaipur, Alwar, Tong, Bundi, Kota, Bhilwara, Chittorgarh, Udaipur, Rajsumand and Ajmer. Extensive discussions were held with the Forest Department (FD) field staff, villagers, panchayat leaders, women's groupa and Non-Governmental Organizations (NGOs). At the end of the field visits, meetings were held with the Minister in charge, Secretary and senior officials of the State Forestry Department.

3.03 This Aide Memoire summarizes the status, major issues and mission recommendations relating to various subproject components. It should be read in the context of the overall midterm review document in which the project's progress in achieving its objectives and the substantive issues involved are discussed in depth. At the end of this Aide Memoire, the budget allocations for the Rajasthan subproject are presented in Table 3.01; plantation and physical achievements are included in Tables 3.02 and 3.03. Table 3.04 presents the revised cost estimates. The operational changes proposed for the remainder of the project are summarized in the Action Plan.

GENERAL

3.04 During 1987/88, seedling sales and farmer enthusiasm for planting have been severely affected by drought. The physical achievements of plantation development on communal and public land are generally less than planned, but will improve once more suitable technical models are introduced and more emphasis is given to community management issues. The cumulative budget shortfall amounts to about 21% and it is unlikely that this will be made up in the remainder of the project.

3.05 There are a number of areas in which additional changes are required to more effectively achieve the project goals. In addition to modifying the targets according to experience gained to date (reducing some, increasing others, and dropping unrealistic components), considerable attention needs to be devoted to introducing technical models for plantations which better meet both the socio-economic and environmental objectives of the project.

3.06 This effort needs to be supported by improved organizational arrangements which would permit a specific focus on social forestry activities without being encumbered with the responsibilities of traditional forestry management. Specific issues and recommended actions are dealt with in the remainder of this Aide Memoire.

AGROFORESTRY

Status and Issues:

3.07 Against the first three years' seedling distribution plan for private planting of 57.5 million seedlings, equivalent to about 38,334 ha, the achievement so far is about 44.7 million (29,799 ha) or 78% of the target. Currently, seedlings are distributed free of cost without any limit. The original project documents envisaged restricting distribution to 1,000 per family and charging 5 paise per seedling beyond this limit by the third year of the project (IFY 87/88). This was not seen as possible, due to the prevailing drought situation in the State. In fact, a FD proposal is pending with the State Government to limit free distribution to 100 and charge at differential rates of 10-20 paise beyond this limit, depending on the species.

3.08 A beginning has been made in decentralized seedling production through kisan and school nurseries. Effective this year, the number of seedlings which can be raised per family in these nurseries is being limited to 25,000, with departmental buy back arrangements at 30 paise per seedling. However, no provisions are made to identify small/marginal farmers with access to water facilities to enable them to participate. There are also large distances between villages and seedling production centers (up to 10-12 km).

3.09 One solution to this problem could be to encourage private nursery development through the introduction of a suitable seedling policy with differential pricing by species. Until such time as adequate private nurseries develop, FD efforts should be directed towards concentrated areas of operations within the project area.

3.10 There is evidence of increasing farmer response to the improved Ber (Zizyphus spp.) program, primarily for use as peripheral field boundary planting, even though only about 99,000 grafts of superior varieties have been introduced so far against the first three years' provision of 170,000 (58% of planned target). Its emergence as a major agroforestry model was noticed in areas where it has been possible to provide improved grafted material of appropriate varieties, technical know-how, and adequate extension.

3.11 Another issue in agroforestry is that existing restrictions on tree felling and timber transportation and the taxes on income generated through tree-growing (Rajasthan Land Tax Act, 1985) clearly act as a disincentive to farmers' participation in the program.

3.12 Two new models of subsidized private forestry have been proposed by the FD:

1) Planting 25 trees on farmers' agricultural fields at wider spacing with an additional cost of Rs 50 for planting per beneficiary.

2) Soil and water conservation measures on degraded farm land through box trenches along contours to be done at a cost of Rs 1125/- per beneficiary.

3.13 The mission has examined the proposal critically and is of the opinion that:

1. The model (a) can be introduced as an on-farm participatory agroforestry research program for pilot experimentation. Under different conditions, this will be dealt under the heading "Research." The FD is required to provide USAID/IDA with a comprehensive plan specifying the total area and cost involved.

2. The model (b) cannot be agreed upon because:

(a) this is likely to provide a disincentive to other farmers undertaking private planting with no subsidy.

(b) this is not designed to be directed towards small marginal farmers (and in fact, experience elsewhere has shown it is difficult to confine to the target group even when specifically designed).

(c) existing inadequate extension will not be able to cope up with the expanding program.

3. Available extension is inadequate even for existing programs, it will therefore not be able to cope with these new components when they expand.

Recommended Action:

3.14 Conduct a study on seedling pricing and establish a new policy for pricing and/or limits placed on free distribution. This would facilitate decentralized private nursery development.

3.15 Provide adequate publicity to farmers regarding the private nurseries in order to facilitate the participation of small and marginal farmers and women.

3.16 Exempt farm forestry species from felling and transport restrictions.

3.17 Modify existing tax provisions (Rajasthan Land Tax Act, 1985) to put income from the sale of farm forestry on a par with that of agricultural crops.

3.18 Introduce participatory on-farm agroforestry programs on a pilot basis, under the project's research component.

TREE TENURE (HOUSEHOLD FORESTRY)

Status and Issues:

3.19 Against the first three years' project target of 2,000 ha, only 445 ha (22% of the target) have been achieved so far. The mission is concerned that this component is being misdirected and not attaining the envisaged objective. Issues constraining the successful development of this model include the selection of refractory, isolated sites, inappropriate beneficiaries, lack of coordination between the Revenue and Forest Departments, non-availability of adequate complementary resources and the virtual absence of technical extension.

3.20 Due to this situation, the FD has proposed the discontinuation of this component from IFY 1989/90. However, since this is the only model that provides the landless and poor with access to tree production, it is desirable that a study be made of the situation and measures taken to try to address the problems.

Recommended Action:

3.21 Conduct a study to identify the key constraints and then make policy recommendations regarding land allocation and beneficiary selection.

3.22 Design and introduce a pilot program for a reduced target of about 50 during 1989/90, working in concentrated areas where extension is easier. Modify existing procedures for land and beneficiary selection, and ensure allocation of contiguous plots of land by the Revenue Department.

COMMUNITY WOODLOTS

Status and Issues:

3.23 The project provides for planting 5,000 ha of woodlots on village panchayat land over five years. Against the first three years' planting target of 2,000 ha, an area of 2004 ha (100.2% of the planned target) has already been covered. Substantial areas of village common land are available in large contiguous blocks in most of the villages/gram panchayats. It should be possible to develop meaningful production units and practice sustainable forestry management at a given site through the creation of a series of woodlots of different age gradations.

3.24 The FD has proposed three new models (silvipastoral, fuelwood, and timber) and an increase of 3000 ha in the target over the next two years. Given the high potential for developing this component, this is reasonable, although it is necessary to develop a planning mechanism that specifies targets for budgetary purposes while permitting flexibility. The models should reflect village needs and desires (e.g., requirements of fuel, fodder, small timber, and minor forest products (MFP)) at a given site within the overall cost estimates/ha.

3.25 The silvipastoral model could be improved by increasing the stems/ha to 200 and by experiments with other cost effective biological soil/moisture conservation practices emphasizing shrubs, grasses and legumes. The afforestation strategy under different models in a village will have to be developed following formulation of site-specific treatment/reference plans in discussion with the villagers.

3.26 Community management of woodlots remains an issue. Possible solutions could come from experimenting with approaches, such as (a) dealing with a village rather than a gram panchayat (which has up to 5 distinct villages); (b) making a micro-plan, through group discussions, that outlines mutual FD/gram panchayat benefits and responsibilities for creating and harvesting woodlots and also ensures their sustainability; (c) establishing Village Development Committees (VDCs) as management adjuncts to panchayats; and (d) using NGOs as alternative local facilitating institutions.

Recommended Action:

3.27 Increase the target for woodlots by 1174 ha over the life of project (to 6174 ha instead of 5000 ha), while keeping to the average cost estimate of Rs 7,400/- per ha.

3.28 Introduce new, low-cost technical models in line with the above discussion.

3.29 Revise and expand microplanning to all community woodlots, new and existing.

3.30 Develop and implement pilot programs to devise effective approaches to decentralized, community management of woodlots.

REHABILITATION OF DEGRADED FORESTS (RDF)

Status and Issues:

3.31 81% of the first three years' planting target has been attained (7,297 ha against 9,000 ha). The present model consists of *Prosopis juliflora* plantations established on degraded forest lands close to villages and is clearly designed to generate fuelwood for the community. Government guidelines strengthen this intent by specifying that 70% of the harvest will be given free to local villagers and the remaining 30% sold concessionally in the local area. The unit cost of these plantations has been increased to Rs 7,000/ ha to include soil and moisture conservation measures (box trenches) along contours in degraded areas. SFW has proposed two models (with and without rootstocks) with a differential cost structure. It is important that the average cost/ha for this component does not exceed the Rs 7,000/ha.

3.32 It should be possible to increase the benefits from this component by expanding the species choice to include other fuelwood-generating species, such as Prosopis cineraria and Acacia leucophloea, which also produce fodder. Locally occurring shrubs, grasses, and legumes that can yield fodder, fuelwood and MFP should also be considered. Plantations need to be established with age gradations to ensure sustained production of fuelwood to a group of nearby villages.

Recommended Action:

3.33 Introduce new fuelwood/fodder species and soil and moisture conservation models where appropriate, using low-cost biological cover.

3.34 Develop regeneration plans with local villages near plantation areas to determine their needs and optimal harvest strategies.

3.35 Reduce the overall target by 4039 ha.

STRIP PLANTATIONS

Status and Issues:

3.36 Plantations are currently being raised at an average cost of Rs 17,000 - 18,000/ha. SFD is proposing increasing the cost to Rs 23,000/ha. The present species choice (Delonix, Eucalyptus, Parkinsonia) and spacing are inappropriate. So far, only 69% of the target has been attained. Improved models would contain wider spaced, multipurpose/shade species, such as Shisham, Jamun, Neem, and Tamarind, as well as fuelwood/fodder trees introduced by sowing. It was the impression of the mission that barbed-wire fencing was unduly expensive, and would not obviate the need for social cooperation in protecting the plantation.

Recommended Action:

3.37 Reduce the target to 200 ha per year for the next two years (for an overall reduction of 2178 ha); introduce new technical models and establish live hedge fencing at least one year prior to the plantation year.

FLOOD CONTROL/EMBANKMENT PLANTATION

Status and Issues:

3.38 The first three years' target of 300 ha has already been achieved in Bharatpur district where the scheme is being implemented. However, the present technology of planting widely-spaced Acacia nilotica on old embankments neither serves any useful purpose nor is directed towards any objective and has not proven successful. The survival of these plantations is extremely low due to heavy pressure of grazing.

Recommended Action:

3.39 Discontinue this component as of 1988-89 and modify the loan agreement (PIL) accordingly.

FUEL-SAVING DEVICES

Status and Issues:

3.40 About 71% of the target for crematoria establishment during the first three years (50 against 70) is expected to be achieved by the end of March, 1988. The mission observed the placement of three crematoria at a single site to accommodate the caste-specific use of individual crematoria. As this cultural pattern seems widespread, and because construction of multiple crematoria is prohibitively expensive, crematoria should be installed only in semi-urban centers, towns, and big villages (with populations of more than 10,000) to serve more people.

Recommended Action:

3.41 Confine crematoria to semi-urban areas where they are more cost-effective.

TRAINING AND EXTENSION

Status and Issues:

3.42 Social forestry orientation courses for the field staff (8 weeks for Foresters and 4 weeks for Forest Guards) were initiated by the FD in 1986, with temporary facilities at Jaipur. The primary purpose of such courses is to expose technically trained FD staff to issues relating to extension, communication, and rural sociology, so that they can respond effectively to the professional demands placed on them in their jobs as social foresters. So far 145 Foresters and 160 Forest Guards have been trained in this school.

3.43 A similar program (2 weeks) for Forest Rangers has also been introduced and one batch of 16 officials working with the Van Chetna Kendras (Forest Awareness Centres) has been trained. An additional one-week short orientation course for Conservators, Deputy Conservators and Assistant Conservators of Forests is planned, following the completion of the new school building. This expanded facility will also make it possible for the school to take up two batches of trainees of twenty simultaneously.

3.44 Although a good beginning has been made in staff training, the number of persons trained so far constitutes a small percentage (10%) of the total strength. Staff members also need periodic exposure to courses to acquaint them with the evolving changes in the program. Consequently, the ways and means must be devised to meet these expanded training requirements.

3.45 Training programs for farmers are arranged in each Forest Division by the field staff through camps and study tours. So far, 10,148 farmers have been trained in various aspects of forestry/social forestry. Sixteen Van Chetna Kendras have also been established (one in each of the 16 project districts). In addition to serving as awareness centers, they are undertaking the training of teachers, agriculture extension workers, and officials of other departments. While significant achievements have been made in terms of the number of farmers trained in basic nursery and plantation technologies, panchayat leaders and members also need to be exposed to the whole range of issues relating to woodlot management. This is a requirement for pursuing a decentralized management approach, through local village level governing institutions.

3.46 The existing FD extension system is rather underdeveloped and weak in all plantation components. The mission came across strong evidence of such inadequacies during its field visits. Since effective extension is central to program success, strong measures are needed to strengthen this component.

Recommended Action:

3.47 Develop a training plan that expands training coverage of staff with possible collaboration with other institutions in the State.

3.48 Revise the curricula to reflect the new directions in technical models and microplanning.

3.49 Organize training camps for local institutions on woodlot establishment and management; organize one women-farmers' training camp per kendra.

3.50 Improve extension through the adoption of the following measures:

1) Develop a technical manual that would outline, by edapho-climatic zone and component, a range of options for species selection, spacing, and mix and management system(s) for different production objectives. This manual can serve as a "ready reckoner" for field staff to provide basic information needed by farmers and panchayats willing to enter community woodlot (and agroforestry) programs.

2) Formulate village-level microplans, concentrating activities in selected villages or groups of villages and using group extension.

3) Further strengthen the link to agricultural extension so that the Agriculture Department can more effectively add farm forestry to their existing workload.

RESEARCH

Status and Issues:

3.51 Commendable progress has been made in developing social forestry research programs during the last year by the State Silvicultural Unit. Some of the current work includes:

1) Testing and certification of the ten most commonly used social forestry species in the State, upon collection of seeds of known origin (Acacia leucophloea, A. nilotica, Prosopis juliflora, P. cineraria, Tecomela undulata, Ailanthus excelsa, Eucalyptus camaldulensis, Dalbergia sissoo, Tectona grandis, and Anogeissus pendula). In fact, only tested seeds of these species are used for nursery plantation programs in all the forest divisions. FD has now developed proposals to enlarge the scope of such activity by including all forestry species in the State.

2) Genetic improvement of different tree species through clonal seed orchards;

3) On-farm adaptive field research of Eucalyptus camadulensis with millet and Ailanthus excelsa with wheat/mustard to ascertain the effect of trees on crops due to root competition and shade effect. Development of fodder yield tables of Ailanthus excelsa and P. cineraria from data collected on farmers' fields;

4) Local volume tables of Dalbergia sissoo, Eucalyptus camaldulensis, Acacia nilotica and A. tortilis;

5) Success of bare root seedlings of xerophytic species;

6) Collaborative research with the Tata Institute of Energy Research, Delhi, on developing computer software for biological research programs and on studying genetic and growth parameters of the slow-growing Proposis cineraria and Acacia leucophloea.

3.52 To further strengthen the existing research activity, FD is considering establishment of five research farms, in addition to the one at Jaipur, in different edapho-climatic zones of the project area. The two major problems constraining the development of this component are the inadequate budget and a lack of continuity of research staff.

3.53 Although the Ber grafting program (described above) is successful, there is still a need to expand the program to introduce other varieties of improved horticultural species. In addition, the accompanying management and marketing have to be further explored.

3.54 The mission observed that in many areas, particularly in the Aravalli Hills, the implementation of the various sub-components (i.e., woodlots, RDF, agroforestry) is carried out in a very scattered manner, thereby having only limited environmental impact and doing little to increase crop production in the area. To increase the project's impact on both the environment and crop production, implementing the various project components, including their built-in soil and moisture conservation aspects, along a concentrated area development approach should be considered.

Recommended Action:

3.55 Guarantee the continuity of SFD research staff to carry out the program by developing a mechanism for retaining interested personnel.

3.56 Examine the possibility of introducing improved horticultural species with supporting technical and other extension services.

3.57 Prepare a micro-watershed development research plan and estimate, covering an area of about 100 ha in 1989-99.

3.58 Introduce an on-farm participatory agroforestry research program.

3.59 Provide a fund of Rs 2 million during the remainder of the project to carry out the research plan.

WOMEN

Status and Issues:

3.60 Thus far, no specific data have been collected on women's roles in forestry in Rajasthan either for planning purposes or for orienting field staff. A special study would generate very important information regarding women's use of forest products, on and off-farm preferences for a flow of fuel, fodder, and fruits from plantations, and possible channels for reaching women with extension messages.

3.61 A large percentage of nursery and plantation employment goes to women in this State. Women nursery workers would make ideal candidates for kisan nursery operators since they are already trained in seedling care. Women would also benefit from farmers' training courses organized in Van Chetna Kendras.

Recommended Action:

3.62 Conduct a special study on women's roles in forestry and their use of forest products for subsistence household needs and income generating enterprises. The results should be used as a basis for technical model development and for specific training curricula on women's roles in the project.

3.63 Organize one women-farmers' training camp in each Van Chetna Kendra (Forest Awareness Centre) with possible collaboration of local NGOs or female panchayat members.

3.64 Recruit female forest extension workers at different levels through efforts by the Forest Department.

NON-GOVERNMENTAL ORGANIZATIONS

Status and Issues:

3.65 There is a variety of NGOs involved in forestry activities in Rajasthan, particularly in the tribal-dominated areas. These NGOs could play an important complementary role in the extension of social forestry messages at a grass-roots level and in experimenting with alternative models for community management, if FD could provide an advisory and monitoring role. At present the FD has inadequate information about NGO programs and has no established linkage for collaboration.

Recommended Action:

3.66 Conduct a survey of NGOs in the State by an independent agency to identify relevant NGOs for participation in a workshop with SFD to develop a strategy for collaboration.

3.67 Make specific arrangements with suitable NGOs for their assistance in the intensive pilot programs in tree tenure and community woodlot handing over. Appoint a NGO nodal officer in the SFD.

BUDGET AND AUDIT

Status and Issues:

3.68 Continued budgetary shortfalls have stymied project progress considerably. Against the cumulative project outlay of Rs 193.6 M up to FY1987/88, a total amount of Rs 160.4 M is expected to be allocated by March, 1988. This will result in a shortfall of Rs 33.2 M by the end of FY87/88. Further, budgetary allocations for the next two years of the project are expected to be around Rs 150 M against project provision of Rs 197.7 M. Consequently, the total budgetary shortfall by end of the project would be Rs 86.9 M, which is about 22% of the project outlay.

3.69 The mission appreciates that the continued drought situation over most parts of the State during the last three years has been one of the major causes for such deficiency in the State plan budget. However, significant funds are available under centrally assisted rural development schemes (Rs 230 M during 1988/89) for social forestry programs in the State and most of such afforestation work is carried out by the FD (NREP, RLEGP, DPAP).

3.70 The audit certificates for the statement of expenditure and accounts for the period ending March 31, 1987 is being processed. However the deadline for submitting these audits was March 31, 1988. Consequently since IDA has not received the audited SOEs for 1987, IDA will suspend disbursing against SOEs till such time this audit has been received.

Recommended Action:

3.71 The State Government should examine the possibility of utilizing Rural Development funds for project plantation activities, given that the objective of afforestation under rural development schemes is not different from that of the project. Such an approach would open up vistas for increased afforestation through the use of centrally assisted funds under the project. This in turn may allow diversions of State plan funds for project support facilities and activities (studies and research) to enable qualitative program improvement. The State Government should also examine the issue of claiming disbursements of expenditures under centrally assisted (rural development) schemes.

ORGANIZATION AND MANAGEMENT

Status and Issues:

3.72 The project envisaged the strengthening of the existing Forest Department staff by creating additional posts of Forest Rangers, Foresters, and Village Forest Workers, who would be supervised by Social Forestry Project Officers (PO) in each of the 18 forest divisions within the project area. These POs were expected to report to concerned DFOs of the territorial Divisions. Apparently the intent of such a structure was that the new line of additional staff would specifically focus on social forestry activities, having area demarcation for such works.

3.73 The review revealed that instead of creating posts of POs, in addition to DFOs in each of these divisions as envisaged, the revised arrangements are as follows:

1) Three divisions have been identified as social forestry divisions under the supervision of one DFO per division. These divisions are not carrying out any territorial forest management functions.

2) Eight divisions have been identified as project divisions carrying out both territorial and social forestry works under supervision of one DFO per division.

3) In the remaining seven project divisions, posts of ACFs (one per division) have been created to act as POs under the territorial DFOs to specifically focus on social forestry work with separate supporting staff. Unfortunately, these positions could not be operationalized due to administrative reasons.

3.74 As a result, there are now only three divisions out of eighteen in which the organizational arrangements permit a specific focus on social forestry activities without being encumbered with the responsibilities of traditional forestry management. For example, in Ajmer there are two forest divisions of which one deals exclusively with social forestry work. The remaining fifteen divisions continue to function primarily as traditional forestry divisions, giving only limited attention to social forestry works under the project.

3.75 In addition to the Monitoring/Evaluation and Extension/Communication Units at the State Headquarters, a Woodlot Planning Unit was to be established by the third year (IFY 1987/88) to provide functional support to field activities. This unit has not yet been established.

Recommended Action:

3.76 Establish the Woodlot Planning Unit as soon as possible.

3.77 Identify a few more divisions, in addition to the three existing ones, to work exclusively with social forestry programs. From the available divisional forest maps and other records, additional social forestry divisions can be created and all social forestry divisions can be placed under the supervision of a separate Conservator of Forests. Only those divisions with limited potential for commercial forestry operations should be selected as social forestry divisions.

3.78 Position AFCs immediately in the remaining divisions and place the additional line staff (ROs, FRs and FGs) under them. There should be separate area jurisdiction commensurate with staff availability/capacity (a few Blocks/Rangers in a division) so that these units can carry out social forestry project work exclusively under the guidance of territorial DFOs.

Table 3.01: BUDGET ALLOCATIONS FOR THE RAJASTHAN SUBPROJECT
(Rs millions)

YEAR	AMOUNT
IFY 85/86 (Including '0' Year)	
Project Allocation	
1. P.P. Target	50.6
2. Actually Placed	33.1
IFY 86/87 (Project Allocation)	
3. P.P. Target	66.5
4. Actually Placed	52.8
IFY 87/88 (Project Allocation)	
5. P.P. Target	76.5
6. Actually Placed	74.5
7. Cumulative PP Target thru March 31,1988 (1+3+5)	193.6
8. Cumulative State Budget Allocation thru March 31,1988 (2+4+6)	160.4
9. Cumulative Budget Deficit thru Mar.31,1988 (7-8)	33.2
IFY 88/89	
10. PP Target	99.3
11. Estimated Budget Allocation	78.4
IFY 89/90	
12. P.P. Target	98.4
13. Estimated Budget Allocation	66.5
14. Total PP Target (7+10+12)	391.7
15. Revised Total Target (8+11+13)	305.3
16. Cumulative Estimated Deficit Over Total Target (14-15)	86.9

TABLE 3.02
RAJASTHAN SUBPROJECT
Plantation Physical Targets and Achievements (Ha)

Project Component	85/86 PP Target	Ach.	86/87 PP Target	Ach.	87/88 PP Target	Ach.	88/89 Revised Target	89/90 Revised Target	Original Total Target (PP)	Revised Total Target
Farm Forestry	1,667	Nil	16,667	17,347	20,000	12,452	10,933	10,933	80,000	51,665
Improved Orchard (zizyphus)	Nil	Nil	800	450	900	590	1,000	1,400	4,000	3,440
Tree Tenure	Nil	Nil	500	191	1,500	254	455	Nil	7,500	900
Community Woodlots	Nil	Nil	1,000	1,002	1,000	1,002	3,420	750	5,000	6,174
Wasteland Plantation										
- RDF	Nil	Nil	4,000	3,950	5,000	3,347	7,972	692	20,000	15,961
- Strip	300	302	660	660	770	260	200	200	3,800	1,622
- Flood Contro	100	Nil	100	200	100	100	-	-	500	300
Total Plantation	2,067	302	23,727	23,800	29,270	18,005	23,980	13,975	120,800	80,062

TABLE 3.03

RAJASTHAN SUBPROJECT

Physical Targets and Achievements (NO.)

	1985/86		1986/87		1987/88		Cumulative thru March 1988		1988/89	1989/90	Original Total Target (P.P.)	Revised Total Target (LOP)
	P.P. Target	Ach.	P.P. Target	Ach.	P.P. Target	Ach.	P.P. Target	Ach.	P.P. Target Revised	P.P. Target Revised		
Staff Training Domestic	10	20	10	140	10	161	30	321	200	300	50	821
Staff Training International	2	0	2	3	2	7	6	10	2	2	10	14
Farmers Training	2,940	0	5,580	5,148	5,580	7,882	14,100	13,030	5,580	5,580	25,260	24,190
Key Incre. Staff 1/	202	261	476	431	654	454	654	454	800	943	943	943
Vehicle Procurement	415	56	116	30	177	Nil	708	86	146	143	997	375
Civil Works	77	42	70	20	42	4	189	66	24	24	237	114

1/ Note: Key incremental staff actually in position on March 31, each year.

TABLE 3.04 EXTENDED PACD

RAJASTHAN SUBPROJECT
Plantation Physical Targets and Achievements (Ha)
with PACD 31 Dec. 1990 (including 90/91 plantation activities)

Project Component	85/86 PP Target	Ach.	86/87 PP Target	Ach.	87/88 PP Target	Ach.	88/89 Revised Target	89/90 Revised Target	90/91 Revised Target	Original Total Target (PF)	Revised Total Target
Farm Forestry	1,667	Nil	16,667	17,347	20,000	12,452	10,933	10,933	10,933	80,000	62,598
Improved Orchard (zizyphus)	Nil	Nil	800	450	900	590	1,000	1,400	1,400	4,000	4,840
Tree Tenure	Nil	Nil	500	191	1,500	254	455	Nil	Nil	7,500	950
Community Woodlots	Nil	Nil	1,000	1,002	1,000	1,002	3,420	750	750	5,000	6,924
Wasteland Plantation											
- RDF	Nil	Nil	4,000	3,950	5,000	3,347	7,972	692	692	20,000	16,653
- Strip	300	302	660	660	770	260	200	200	200	3,800	1,822
- Flood Contro	100	Nil	100	200	100	100	Nil	Nil	Nil	500	300
Total Plantation	2,067	302	23,727	23,800	29,270	18,005	23,980	13,975	13,975	120,800	94,087

INDIA NATIONAL SOCIAL FORESTRY PROJECT MIDTERM REVIEW

RAJASTHAN ACTION PLAN

RECOMMENDED ACTION	TARGET DATE	RESPONSIBLE AGENCY
Farm Forestry		
1. Conduct study on seedling pricing and establish new policy for pricing and/or limits on free distribution.	March 1989 April 1989	FD/ Institutes/ Consultants
2. Exempt relevant species from felling and transportation restrictions.	March 1989	FD/Revenue Dept.
3. Modify existing tax provisions (Rajasthan Land Tax Act, 1985) to put income derived from sale of farm forestry trees on a par with that of agricultural crops.	March 1989	FD/GOI
4. Encourage participation of NGOs and women in private nursery programs.	Oct. 1988	FD
5. Marketing Study: a. Finalize scope of work and design; b. Complete the study.	 Sept. 1988 Aug. 1989	 USAID/FD FD/USAID/IDA Institutes
Household Forestry/Tree Tenure		
1. a. Finalize scope of work & design study b. Conduct study to identify key constraints including land allocation and beneficiary selection; make policy recommendation.	Sept. 1988 March 1989	USAID/FD FD/USAID/ Institutes
2. Based on study results, introduce a pilot program for a revised target of 50 ha/year during the remainder of the project.	March 1989	FD
3. Amend loan agreements (PIL) to reflect revised targets.	Nov. 1988	GOI/GOR/ USAID/IDA
Community Woodlots		
1. Increase target by 1174 ha over life of project with per ha investments not to exceed about Rs 7400.	1988/89 1989/90	FD

RECOMMENDED ACTION	TARGET DATE	RESPONSIBLE AGENCY
2. Introduce new low cost technical models with biological soil and moisture conservation practices which also provide continuous product flow.	Oct. 1988	FD/USAID
3. Introduce use of microplanning in each range of social forestry divisions.	Dec. 1988	FD
4. Prepare pilot program to develop model for local decentralized management of selected woodlots.	Dec. 1988	FD/USAID
5. Amend loan agreements (PIL) to reflect revised targets.	Nov. 1988	GOI/GOR/ USAID/IDA
Rehabilitation of Degraded Forests		
1. Introduce new fuelwood/fodder species where appropriate and new low cost models for soil and water conservation with shrubs, grasses and legumes.	Oct. 1988	FD/USAID
2. Develop microplans with villages adjacent to plantations to reflect local needs.	Dec. 1988	FD
3. Amend loan agreement (PIL) to reflect modified target.	Nov. 1988	GOI/GOR USAID/IDA
Strip Plantations		
1. Reduce target to 200 ha per year for next 2 years introducing new technical models with live hedge fencing.	Oct. 1988	FD
2. Amend loan agreement (PIL) to reflect revised target.	Nov. 1988	GOI/GOR/ USAID/IDA
Flood Control/Embankment Plantation		
1. Discontinue from 1988/89 and accrue loan agreement (PIL) to reflect revision.	Oct. 1988	FD/USAID/ IDA
Fuel Saving Devices		
1. Confine establishment of crematoria to semi-urban areas where these are more cost effective.	Oct. 1988	FD

RECOMMENDED ACTION	TARGET DATE	RESPONSIBLE AGENCY
Training and Extension		
1. Develop training plan to expand coverage of staff with possible collaboration with other institutions.	Dec. 1988	FD/ Institutes
2. Update curricula to incorporate new directions in technical models and added emphasis on group discussion and micro-plan development.	Oct. 1988	FD
3. Organize training camps for local village institutions on woodlot establishment and management.	March 1989	FD
4. Develop technical manual as a basis for extension messages.	March 1989	FD
5. Prepare proposals to strengthen linkage with the agricultural extension system.	Dec. 1988	FD/Ag. Dept.
Organization and Management		
1. Expand the number of social forestry divisions with single line command to ensure effective project implementation.	March 1989	FD/GOR
Research		
1. Provide adequate budget and staff to allow initiation of expanded FD and collaborative research programs; ensure continuity of staff to carry out program.	Oct. 1988	FD
2. Prepare proposals for introducing other improved horticulture species, also including management and marketing.	Dec. 1988	FD
3. Prepare micro-watershed development research plan and estimate.	Oct. 1988	FD
4. Develop plan/introduce on-farm agro-forestry research program on pilot scale.	June 1988 July 1988	FD FD
Monitoring and Evaluation		
1. Analyze 1986 and 1987 data as per M&E operational guide.	March 1989	FD

RECOMMENDED ACTION	TARGET DATE	RESPONSIBLE AGENCY
Women		
1. a. Finalize scope of work and mechanism for the study;	Sept. 1988	FD/USAID
b. Conduct study on women's roles in forestry in Rajasthan as input into model development and new training curricula.	June 1989	FD/USAID
2. Organize women-farmers' training camps through Van Chetna Kendras.	March 1989	FD
3. Submit proposal to GOR for recruiting Lady Forest Extension Workers.	Dec. 1988	FD
Non Governmental Organizations		
1. a. Finalize scope of work and mechanism for the study;	Sept. 1988	FD/NGOs
b. Conduct survey of NGOs and organize workshop with relevant NGOs to devise strategy for collaboration	Feb. 1989 March 1989	FD
Budget and Audit		
1. Submit promptly the audited accounts and SOEs for the period ending March 31, 1987.	ASAP	FD/GOR
Project/Credit Agreement		
1. Obtain final compliance for the pending Special Covenants 6.2(d) and 6.2(l) of the Project Agreement.	Oct. 1988	FD/GOI/USAID

INDIA NATIONAL SOCIAL FORESTRY PROJECT

AIDE MEMOIRE IV: UTTAR PRADESH STATE SUBPROJECT

INTRODUCTION

4.01 As part of the overall midterm review of the National Social Forestry Project, a joint IDA/USAID mission visited Uttar Pradesh February 2 - 12, 1988 to review the progress of the U.P. subproject and to consider mid-course changes.

4.02 The mission visited selected project activities in Ghaziabad, Meerut, Bijnore, Saharanpur, Muzzafarnagar, Bareilly, Shahjahanpur, Lucknow, Sultanpur, Varanasi, Azamgarh, Moradabad and Jaunpur Districts. Extensive discussions were held with Social Forestry officers and field staff, and field inspections, and interviews were carried out with villagers and women's groups. The mission was accompanied by Mr. Aggarwal (CF, Planning) and Mr. Madan Gopal, ACCF, and met with most of the CFs, DFOs, ACFs, and many of the ROs in each of the Circles. At the completion of the field visits, discussions were held with PCCF, CCF (Social Forestry), the Minister and Secretary of Forests, Principal Agricultural Commissioner, and other officers in Lucknow, and procedures for completing the review were agreed upon.

4.03 This Aide Memoire addresses the operational aspects of the Uttar Pradesh subproject, particularly the mid course changes in project implementation proposed by the State or recommended by the mission. It should be read in the context of the overall midterm review document in which the project's progress in achieving its objectives and the substantive issues involved are discussed in depth. The budget allocations for the Uttar Pradesh subproject are provided in Table 4.01 of this Aide Memoire. The overall plantation and physical progress to date is provided here in Tables 4.02 and 4.03. The revised estimated costs for the project are presented in Table 4.04. The operational changes proposed for the remainder of the project are summarized in the Action Plan.

GENERAL

4.04 In its western half, Uttar Pradesh has shown remarkable progress in developing a large network of private decentralized nurseries through near-cost based seedling pricing and intensive farm forestry. These are increasingly involving smaller farmers in agrforestry practices. However, during 1987-88, seedling sales and farmer enthusiasm for tree planting were severely affected by drought, despite continued diversification of markets for tree products. In addition, eastern U.P. continues to lag significantly behind in the adoption of farm forestry, where only about 30/40% of the target is being attained.

4.05 Physical achievements in community woodlots and specialized components such as tree tenure are less than half those planned under the project to date. This shortfall is due to the lack of available panchayat land, the long delay in recruiting additional staff and procuring vehicles, and the reduced budget allocations provided by the State Government. Although increased emphasis has been placed on microplanning exercises, little progress has been achieved in increasing community participation. The budgetary shortfall of Rs 176 million represents a cut of over 21% in planned budget levels and is unlikely to be made up during the remainder of the project period.

4.06 There are a number of areas in which additional changes are required to more effectively achieve the project goals. In addition to modifying targets according to experience gained to date (increasing some, reducing others, and dropping unrealistic components), considerable attention needs to be devoted to introducing technical models for plantation which better meet both the socio-economic and environmental objectives of the project.

4.07 This effort needs to be supported by greatly strengthened research and expanded training as well as intensive pilot efforts to develop viable methods for community management and tree tenure. In addition, administrative and legislative hurdles to more effective farm forestry marketing need to be removed. This would enable greater expansion of more diversified agroforestry systems which rely less on Eucalyptus and are economically and environmentally more complementary to the cropping systems practiced in the State. Specific issues and recommended actions are dealt with in the remainder of this Aide Memoire.

FARM FORESTRY

Status and Issues:

4.08 In the first three years of the project, the SFD has fulfilled its target of selling about 100 million seedlings (equivalent to 66,000 notional ha). The uptake in 1987 was reduced because of drought in western U.P.: Most trees are planted under irrigated conditions and scarce water was required for other crops. While tree planting in eastern U.P. continues to lag behind, the landscape in western U.P. has now been transformed with strong evidence of increased planting by small farmers--particularly on field boundaries--and increased experimentation with new agroforestry combinations such as combining Poplars with sugarcane production.

4.09 These impressive achievements in farm forestry have been bolstered by the establishment of 5,429 school and kisan nurseries under contractual buy-back arrangements and the indirect encouragement of an estimated 2,000 purely private nurseries. The fact that private nurseries have been established by thousands of farmers is due not only to the high demand for seedlings, but also because of the government's policy of selling their "cheaper type" seedlings at near the cost of production, e.g., Eucalyptus at 30 paise.

4.10 The resulting large scale plantation development has also demonstrated the economic sustainability of private farm forestry and can serve as a model for other States. This conclusion is supported by an excellent study sponsored by the SFD that has concluded that while there are major differences between eastern and western U.P., seedling sales in normal years would not be significantly diminished by increasing prices to the full cost of production.

4.11 During 1987, however, the drought severely affected seedling sales, forcing the SFD to start giving away seedlings and creating significant losses for private nursery operators. The drought has also discouraged farmers from planting more trees and raised fears that boundary tree planting is causing unacceptable losses in field crop production and, surprisingly, discouraging rain.

4.12 Farmers have responded to this crisis by experimenting with new species and new management techniques (e.g., branch pruning to reduce shade), but suffer from an almost complete lack of information on agroforestry interactions, technologies, management, and marketing. This lack of information has also limited farmers' adoption of technologies appropriate to rainfed and degraded lands. Diversification to new species is also hampered by existing felling and transportation rules which not only limit the species which can be grown and cut, but also encourage corruption and depress the price received by farmers by channeling marketing into the hands of intermediaries.

4.13 As a result of the drought, the development of purely private nurseries is likely to be set back. Given the progressively increasing seedling demand by farmers, the SFD is preparing to increase the targets of departmental seedling production for the next two years. With such revision, the modified project target would be 156,667 ha.

Recommended Action:

4.14 Undertake the proposed special studies on marketing and seedling cost of production as soon as possible; establish prices for seedlings of different species groups based on this study. This would encourage the continued viability of private and kisan nurseries and the increased diversification of species.

4.15 Establish NGO nurseries along the lines of kisan nurseries (instead of providing free seedlings to NGOs and associated groups such as Yuvak Mandals); develop a pilot program for distributing low cost seedlings to poor and marginal farmers (e.g., basket seedlings, seed minikits).

4.16 Provide training to kisan, private, school and NGO nursery operators in seedling propagation and tree husbandry to increase species diversification and better tree management. This support for private nursery development would allow the SFD to gradually phase out nursery production of commonly used farm forestry species.

4.17 Focus research and extension immediately on providing information on alternative agroforestry models, appropriate spacing and management, and marketing; identify specific technical extension messages. A special study is urgently required to assess economic and biophysical interactions of boundary planting.

4.18 Relax the restrictions on felling to exempt species planted on private lands (including mango, shisham, etc.); remove regulations requiring transport permits except perhaps in areas nearby to large reserve forest areas.

4.19 Increase the target for the next two years by 35,000 ha per year.

TREE TENURE

Status and Issues:

4.20 Tree tenure, the allotment of panchayat or road and railside land to landless and marginal farm households for the exclusive purpose of raising trees with SFD help, was a new program introduced with the National Social Forestry Project. The implementation of this component has been plagued with difficulties from the outset. So far, none of the 4,150 ha target to date has been reported as achieved, although some pilot efforts can be found. The SFD has requested a reduction of total project target from 13,210 ha to 1,000 ha.

4.21 As road, rail and canal side plantations are legally defined as 'Protected Forests,' State and Central Government approval is required for their use, and there are indications that it may not be approved for fear that it will legalize encroachment on these lands. Gram samaj (panchayat) land nonavailability also appears to have been a major factor limiting success in this component. Such land is very limited in most panchayats (usually under 10 ha), frequently encroached, and the subject of intense competition from other programs, including the community woodlot program, land redistribution programs, public works programs, etc. Thus, the SFD has often found that the land distributed by the Revenue Department on paper does not exist in the field.

4.22 The procedures used to identify the beneficiaries and land have also proved problematic (e.g., extensive litigation for land entitlement and use and beneficiary selection procedures vulnerable to abuse). Since the responsibility for this identification rests with the Revenue Department, the SFD has no direct role and has experienced considerable difficulty obtaining the needed information to carry out the program. It is also likely that land leased exclusively for tree planting will, if physically feasible, be turned into agriculture and eventually become indistinguishable from other land distribution programs since small farmers' principal interest is in raising food crops.

Recommended Action:

4.23 Restructure the tree tenure component as an intensive pilot program to be carried out in selected districts, with a much reduced target of 1,000 ha. Based on the results of a sample study, make appropriate efforts to change the land identification and allotment procedures to provide authority to the SFD to identify beneficiaries and land directly with the panchayats.

COMMUNITY WOODLOTS (CWL)

Status and Issues:

4.24 By 1987/88, 56% of the targeted community woodlots, or 6,766 ha had been established and the SFD has made commendable progress in the introduction of microplanning for community woodlot areas. The SFD has requested a reduction in the total project target by 5,000 ha, which would leave 2,234 ha for the remainder of the project period. To compensate for the proposed reduction in tree tenure and community woodlots, the SFD has requested the addition of a new subcomponent, development of degraded forest areas in the social forestry districts (see 4.33 - 4.38).

4.25 As community woodlots are established on the same gram samaj (panchayat) land as the tree tenure program, it suffers from the same problem of limited land availability. Thus, the little land that is available is subject to intense competition from the plantation programs of the Central Government (NREP, RLEGP, etc.) and demands for land distribution to landless. As a result, most of the woodlots are extremely small (less than 5 ha).

4.26 Due to the small size of the woodlots, the amount of produce available for village distribution is meager and the possibility of community management as originally envisioned doubtful. Persistent enquiries with villagers and panchayat leaders have also confirmed that panchayat management without strong SFD support will be difficult, given the fiscal and organizational weakness of the panchayats in the face of strong political factions.

4.27 Poor people derive benefits through the collection of leaves, grasses and twigs, but since the amount of cut tree harvest will be so small, most villagers suggested that its best use would be to generate panchayat income which could then be directed to community projects such as school roofs, roads, etc. Despite the increased use of microplanning tools, little real effort has yet been made to establish workable contractual relationships with the panchayats.

4.28 The small size of woodlots and the models used have also mitigated against effective environmental rehabilitation. While the sowing of Prosopis and Acacias has been effective, ground cover is lost as soon as the canopy closes and/or grazing is reintroduced.

Recommended Action:

4.23 Restructure the tree tenure component as an intensive pilot program to be carried out in selected districts, with a much reduced target of 1,000 ha. Based on the results of a sample study, make appropriate efforts to change the land identification and allotment procedures to provide authority to the SFD to identify beneficiaries and land directly with the panchayats.

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4.28 The small size of woodlots and the models used have also mitigated against effective environmental rehabilitation. While the sowing of Prosopis and Acacias has been effective, ground cover is lost as soon as the canopy closes and/or grazing is reintroduced.

Recommended Action:

4.29 Reduce the overall project target by 5,000 ha. Establish an intensive pilot program with the remaining 2,234 ha and also in five selected blocks or districts where older plantations exist. 300 ha and 817 ha respectively should be under low cost and medium cost models. (See Table 4.02).

4.30 Make the woodlots a minimum of 5 ha in size wherever possible; develop them through a microplanning procedure built on group discussion and the presentation to the village assembly of alternative technical and managerial models; introduce the use of new low cost technical and managerial models which incorporate soil and moisture conservation and which assure continuous intermediate yields through multiple canopy layers, use of shrubs and grasses, and wider tree spacing.

4.31 Resolve the conflicts between the policies of the NREP, RLEGP and Rural Development Department plantations and community woodlots. Provisions for all must be made identical.

4.32 Implement a pilot program for handing over all woodlots within the five pilot areas, using group meetings and contractual arrangements, including grant support if necessary.

REHABILITATION OF DEGRADED FORESTS (RDF)

Status and Issues:

4.33 Following earlier requests from the SFD to introduce a sub-component for rehabilitation of degraded forest land under the wasteland plantation component, the previous review mission of May, 1987 agreed to the provisional inclusion of up to 5,000 ha per year, based on three conditions to be examined at the time of the midterm review. These included: (1) legal arrangements for benefit sharing; (2) development of area-specific management plans made in cooperation with the local community; and (3) the development of new low cost models which would better meet local socio-economic and environmental concerns. Given the limited availability of community land, and the existence of the landlord (Zamindari) abolition program (which could serve many of the same community needs and also provide for rehabilitating environmentally degraded land), the inclusion of this sub-component was agreed to in principle.

4.34 Some progress has been recorded against each of these conditions. However, the review mission found that in each case, additional work will be required before the conditions are fully met. These are specified below.

Recommended Action:

4.35 Issue a U.P. Government Order to provide the legality for the conditions for benefit sharing outlined in the Secretary's letter. It should deliniate the rights to intermediate and final products. An equivalent GOI decision would cover forests with and without recorded settlement rights.

4.36 Modify the procedure for preparing micro-plans to incorporate village assembly meetings in which various technical and managerial alternatives are presented and mutually agreed upon management arrangements established. The harvesting plan felling series should be based on the unit of the forest itself to ensure continuous product flow to surrounding villages; long term management of the forests should be vested with the Social Forestry Department. At the same time, the effort should be made to spread viable production units over as many villages as possible to help extend benefits to a wider cross section of rural communities.

4.37 Develop additional low cost technical models for use in this component, since four of the five models already presented are too costly. These models would incorporate soil and moisture conservation and fodder production through the sowing of shrubs and grasses, the wider spacing of non-Eucalyptus tree species, and the use of live hedges rather than trenches. Of the last two years' target of 10,000 ha, at least 4,500 ha should be with the low cost model (Table 4.02).

4.38 Based on the fulfillment of the above conditions, this new RDF sub-component, at 5,000 ha per year, would be added to the project at a cost not to exceed the agreed rates for community woodlots.

STRIP PLANTATIONS

Status and Issues:

4.39 The project includes a small component of 740 ha of strip (roadside and railside) plantations. Against the target through 1987/88 of 620 ha, the SFD has used State funds to plant over 10,000 ha (including canalsides). Given the difficulties in achieving other targets, the SFD proposed increasing the project target to 10,000 ha for strip plantations of all kinds.

4.40 The quality and value of strip plantations are highly variable: some are excellent while others are only moderately successful. Socio-economic objectives are served to some extent by the fact that poorer people collect leaves, grass and twigs for their subsistence use. However, the Government has not established any benefit sharing or distribution policy, nor has any harvesting of strip plantations been done to date. Perhaps the principal value of these plantations so far has been in generating public support for forestry and providing shade during the many hot summer months for the millions of villagers using these roads.

4.41 The main constraints on expanding the component for strip planting are the high cost of the models used at present (due to the extensive use of barbed wire fencing and watering) and the lack of a government policy on the distribution of benefits.

Recommended Action:

4.42 Develop new low cost technical models based on widely spaced multipurpose shade trees in the first row, sowing of shrubs and pollarding fuel/fodder species in the remaining rows, use of live hedge fencing and minimal watering.

4.43 Establish a policy for benefit sharing and harvesting of strip plantations.

4.44 Based on the filfullment of these conditions, increase the targets for the remainder of the project to 750 ha for 1988/89 and 1,500 ha for 1989/1990, for a total of 2870 ha.

RESEARCH AND EXTENSION

Status and Issues:

4.45 At present the research carried out under the project is extemely limited and no overall strategy exists. Given the urgent need to support farm forestry extension and to develop new models for public land planting, research on agroforestry, fodder trees and grasses, tree management, and shrub propagation should be given the highest priority.

4.46 As the capacity for such research within the Department is limited, arrangements should be made with selected agricultural universities (SAUs) and the Central Research Institute (CRI) in U.P. to carry out this work. In addition, arrangements for technical assistance to help develop the priorities and methodologies will be required. The present extension arrangements for farm forestry are highly unsatisfactory. The SFP does not deploy staff primarily for this purpose nor does it have arrangements for supporting the agricultural extension service. Consequently, SFD relies mainly on the dissemination of publicity materials.

Recommended Action:

4.47 Identify eight to ten priority research projects which might include subjects such as: (1) the effect of Eucalyptus and Sissoo on wheat, sugarcane, mustard and pulses; (2) the effect of tree pruning on farm trees and crops; (3) propagation methods of some local shrubs; (4) the effect of V-ditch soil working and vegetative contour planting techniques on productivity; (5) a trial of Artiplex in saline areas; (6) fodder species trials in various types of sites; (7) seed selection and certification; and (8) nursery trials.

MONITORING AND EVALUATION

Status and Issues:

4.57 Considerable progress in operationalizing the Monitoring and Evaluation Unit has been achieved through the hiring of some staff, the installation of computer facilities, and the carrying out of some surveys and regular reporting functions. However, the survey results were not in a printed form that was accessible to the review mission and it is apparant that significant additional strengthening is required to insure timely and useful M&E.

Recommended Action:

4.58 Restructure and expand the M&E Unit to recruit needed additional staff, particularly the social scientist and statistical and computer experts, and establish a clear linkage with the proposed computer unit.

4.59 Establish a plan which contains a specific timetable for revising the monitoring proforma, providing training for staff (especially in computer operation and analysis), conducting surveys, and arranging an inter-state workshop for an exchange of ideas.

4.60 Finalize arrangements for drawing upon on-going technical assistance, particularly for adapting existing and new computer software for M&E purposes and for increasing analytical capabilities.

SPECIAL STUDIES

Status and Issues:

4.61 The SFD has contracted for a study of seedling pricing policy with the Institute of Cooperative Training and Research. (This Institute has come out with an excellent study pointing out the differences between western and eastern U.P. and suggesting that the distribution of seedlings at cost would have only a small effect on the sale of seedlings.) The following additional studies have now been proposed: (1) plantation survival; (2) kisan and school nurseries and the cost of seedling production by species group; (3) Khadar area plantation; (4) marketing of farm forestry products; (5) financial and biophysical cost/benefit study of agroforestry; and (6) low cost soil and moisture conservation (including shrubs, grasses and legumes) plantation practices. These studies are proposed to be carried out by either retired foresters or competent research institutes. It is also proposed to drop the study on improved wood burning stoves, listed under the component of Fuelwood Saving Devices, since this subject is covered by other Departments.

Recommended Action:

4.62 Finalize studies (1), (2), (3), and (6) above to be carried out by retired forest officers using suitable methodologies (i.e., "Redbook" sampling for study (1)).

4.63 Contract studies (4) and (5) to competent research institutions (such as the Institute for Cooperative Training and Research, or the Giri Institute, etc.), with economists as the principal investigators.

4.64 Drop the study on improved stoves from the project.

NON-GOVERNMENTAL ORGANIZATIONS

Status and Issues:

4.65 To date, NGOs have not been actively involved in the project beyond the taking of free seedlings for local projects. Knowledge of smaller NGOs is not available at the SFD and no specific mechanisms for obtaining this knowledge presently exist. Although some members of the SFD have participated in workshops organized by larger NGOs, such as BAIF or Manavodaya, such coordination is ad hoc.

4.66 Voluntary organizations, such as the Yuvak Mandals (male youth groups) and the emerging Mahila Mandals (women's groups) are starting to become active in planting programs. Unfortunately, they frequently come into conflict with panchayats over land availability and are vulnerable to accusations of misuse of free seedlings due to the lack of cooperative mechanisms. However, the potential for valuable complementarity between the SFD and NGOs, particularly in developing community management models and introducing agroforestry in eastern U.P., is high.

Recommended Action:

4.67 Undertake a survey of NGOs active in the State by the M&E unit; organize a workshop to discuss modes and mechanisms for increased cooperation.

4.68 Make specific arrangements with suitable NGOs for them to assist in the intensive pilot programs in tree tenure and community woodlot handing over. Appoint a NGO nodal officer in the SFD.

4.69 Establish a program for NGO nurseries along the lines of kisan nurseries (but perhaps with higher seedling limits in some cases) instead of distributing free seedlings.

Table 4.01: BUDGET ALLOCATIONS FOR THE UTTAR PRADESH SUBPROJECT
(Rs millions)

YEAR	AMOUNT
IFY 85/86 (Including '0' Year)	
Project Allocation	
1. P.P. Target	223.9
2. Actually Placed	198.0
IFY 86/87 (Project Allocation)	
3. P.P. Target	271.9
4. Actually Placed	192.3
IFY 87/88 (Project Allocation)	
5. P.P. Target	339.4
6. Actually Placed	268.7
7. Cumulative PP Target thru March 31,1988 (1+3+5)	835.2
8. Cumulative State Budget Allocation thru March 31,1988 (2+4+6)	659.0
9. Cumulative Budget Deficit thru Mar.31,1988 (7-8)	176.2
IFY 88/89	
10. PP Target	388.2
11. Estimated Budget Allocation	385.0
IFY 89/90	
12. P.P. Target	388.2
13. Estimated Budget Allocation	390.0
14. Total PP Target (7+10+12)	1,611.6
15. Revised Total Target (8+11+13)	1,434.0
16. Cumulative Estimated Deficit Over Total Target (14-15)	177.6

TABLE 4.02

UTTAR PRADESH SUBPROJECT

Plantation Physical Targets and Achievements (Ha)

Project Component	IFY 1985/86 P.P. Target	IFY 1985/86 Ach.	1986/87 P.P. Target	1986/87 Ach.	1987/88 P.P. Target	1987/88 Ach.	1988/89 Revised Target	1989/90 Revised Target	Original Total Target P.P.	Revised Total Target
Farm Forestry	42,000	42,000	22,000	22,000	22,667	22,667	35,000	35,000	134,000	156,667
Tree Tenure	340	Nil	1,350	Nil	2,460	Nil	500	500	13,210	1,000
Community Forest	5,000	1,997	4,000	1,874	3,000	2,895	1,117	1,117	14,000	9,000
Wasteland:										
Strip	250	250	240	240	130	130	750	1,500	740	2,870
RDF	Nil	Nil	Nil	Nil	5,000	5,000	5,000	5,000	Nil	15,000
Total Plantation	47,590	44,247	27,590	24,114	28,257	30,692	42,367	43,117	161,950	184,537

TABLE 4.03

UTTAR PRADESH SUBPROJECT

Physical Targets and Achievements (NO.)

	1985/86		1986/87		1987/88		Cumulative thru March 1988		1988/89	1989/90	Original	Revised
	P.P. Target	Ach.	P.P. Target	Ach.	P.P. Target (Planned)	Ach.	P.P. Target	Ach.	P.P. Target	P.P. Target	Total Target (P.P.)	Total Target (LOP)
Staff Training Domestic	905	203	890	288	890	262	2,685	753	600	600	4,465	1,953
Staff Training International	5	1	6	5	3	3	14	9	5	5	24	19
Farmers Training	10,470	108,696	10,460	113,854	10,460	123,676	31,410	346,226	100,000	100,000	52,330	546,226
Key Incre. Staff 1/	706	53	1,580	217	2,198	1,315	2,198	1,315	3,158	3,843	3,843	3,843
Vehicle Procurement	140	41	193	61	266	91	599	193	113	130	892	436
Civil Works	95	128	336	164	602	460	1,033	752	613	619	2,817	1,984

1/ Note: Key incremental staff actually in position on March 31, each year.

TABLE 4.04 EXTENDED PACD

UTTAR PRADESH SUBPROJECT

Plantation Physical Targets and Achievements (Ha)
with PACD 31 Dec. 1990 (including 90/91 ; antation activities)

Project Component	IFY 1985/86 P.P. Target	IFY 1985/86 Ach.	1986/87 P.P. Target	1986/87 Ach.	1987/88 P.P. Target	1987/88 Ach.	1988/89 Revised Target	1989/90 Revised Target	1990/91 Revised Target	Original Total Target P.P.	Revised LOP Target
Farm Forestry	42,000	42,000	22,000	22,000	22,667	22,667	35,000	35,000	35,000	134,000	191,667
Tree Tenure	340	Nil	1,350	Nil	2,460	Nil	500	500	500	13,210	1,500
Community Forest	5,000	1,997	4,000	1,874	3,000	2,895	1,117	1,117	1,117	14,000	10,117
Wasteland:											
Strip	250	250	240	240	130	130	750	1,500	1,500	740	4,370
RDF	Nil	Nil	Nil	Nil	5,000	5,000	5,000	5,000	5,000	Nil	20,000
Total Plantation	47,590	44,247	27,590	24,114	28,257	30,692	42,367	43,117	43,117	161,950	227,654

INDIA NATIONAL SOCIAL FORESTRY MIDTERM REVIEW

UTTAR PRADESH ACTION PLAN

RECOMMENDED ACTION	TARGET DATE	RESPONSIBLE AGENCY
Farm Forestry		
1. Establish seedling prices according to the cost of production by species groups:		
(a) Conduct study on seedling production costs;	Jan. 1989	SFD Consultants
(b) Introduce new pricing structure and publicize.	March 1989	SFD
2. Extend kisan/school nursery system to NGOs and abolish distribution of free seedlings.	March 1989	SFD
3. Establish pilot program for low-cost seedling production, e.g., basket seedlings, seed mini-kits.	March 1989	SFD
4. Establish training program for nursery operators (kisan, NGO, school, private).	Oct. 1988	SFD
5. Distill existing technical knowledge into a set of specific extension messages to be used by all field staff on: a) block planting (spacing, watering, harvesting, etc.) b) boundary planting (species, spacing, trenching, pruning, etc.) c) intercropping (species, pruning, spacing, etc.)	March 1989	SFD
6. Increase number of species exempt from felling restrictions and abolish restrictions on transport of wood except in blocks near large, reserved forests.	March 1989	SFD
7. Amend loan agreement (PIL) to reflect revised project targets.	Nov. 1988	USAID/IDA/ GOI/GOUP

RECOMMENDED ACTION	TARGET DATE	RESPONSIBLE AGENCY
Tree Tenure		
1. Conduct study in three sample blocks to identify key constraints.	Sept. 1988	SFD
2. Review study results and prepare pilot program for revised target of 1,000 ha in selected districts.	Oct. 1988	SFD Rev. Dept./ USAID/IDA
3. Amend loan agreements (PIL) to reflect revised targets.	Nov. 1988	GOI/GOUP/ USAID/IDA
Community Woodlots		
1. Compile data on area covered by all schemes (NREP, RLEGP, etc.) and conduct study on land availability by plot size in three blocks.	Sept. 1988	SFD Rev. Dept./ USAID/IDA
2. Review study results and prepare pilot program for reduced target of 2,234 ha with: a) minimum plot size 5 ha where possible b) group discussion micro-planning c) new, medium & low-cost technical models.	Dec. 1988	SFD
3. Introduce pilot program to hand over existing woodlots to panchayats through group meetings.	Dec. 1988	SFD
4. Amend loan agreements (PIL) to reflect targets.	Nov. 1988	GOI/USAID/ IDA/GOUP
Rehabilitation of Degraded Forests (RDF)		
1. Draw up Government Order specifying rights to intermediate and final products of both categories of forests.	March 1989	SFD/GOUP
2. Revise microplan format to include group meetings to decide technical and managerial alternatives for continuous product flow.	Dec. 1988	SFD
3. Prepare two low-cost technical models within cost estimate of community woodlot for new target of 5000 ha per year in minimum 10 ha plots.	June 1988	SFD

RECOMMENDED ACTION	TARGET DATE	RESPONSIBLE AGENCY
4. Submit reimbursement claim for up to 5,000 ha of RDF for 1987 plantation, subject to: (a) compliance with (1) above (G.O.); (b) correspondance of cost/ha with the low & medium cost models of woodlot.	ASAP	SFD
5. Amend loan agreements (PIL) to reflect revised targets.	Nov. 1988	GOI/GOUP/ USAID/IDA
Strip Plantations		
1. Prepare new, low-cost technical models with hedge fencing and minimum watering for targets of 750 ha in 1988/89 and 1,500 ha in 1989/90.	June 1988	SFD
2. Amend loan agreements (PIL) to reflect revised targets.	Nov. 1988	GOI/GOUP/ USAID/IDA
Research and Extension		
1. Prepare research strategy for social forestry including: (a) 8-10 priority research programs; (b) contractual arrangements; (c) linkage to extension efforts; (d) arrangements for technical assistance.	March 1989	SFD/SAUs USAID/IDA
2. Introduce Rs 2 M per year research line under U.P. subproject and amend loan agreements (PIL) accordingly.	April 1989	SFD/ USAID/IDA/ GOI/GOUP
3. Prepare G.O. for using Rangers as SMS and develop organizational structure for linkage of extension with Ag.Dept. & staffing.	March 1989	Ag. Dept./ SFD
Women		
1. Conduct study on women's roles in forestry in U.P as input into plantation model development and new training curricula.	June 1989	SFD/USAID
2. Organize female farmer training camps through Van Chetna Kendras.	March 1989	SFD
3. Send proposal to GOUP for recruiting women staff (FG & FR).		

RECOMMENDED ACTION	TARGET DATE	RESPONSIBLE AGENCY
Monitoring and Evaluation (M&E)		
1. Prepare plan for structure and staffing of M&E unit, including:	Oct. 1988	SFD/ USAID
a) linkage to proposed computer unit;		
b) timetable for revised proforma and studies;		
c) staff training;		
d) arrangements for technical assistance.		
Special Studies		
1. Develop scope of work agreements and carry out agreed upon studies covering:	Sept. 1988	SFD/USAID
a) Plantation survival;	March 1989	SFD
b) Nurseries and seedling costs;	Oct. 1988	SFD Consult.
c) Khadar plantation;	March 1989	SFD Consult.
d) Marketing;	June 1989	USAID/ Research Inst
e) Agroforestry cost/benefit (finan./ biophysical)	June 1989	USAID/ Research Inst
f) Soil and moisture conservation	June 1989	SFD Consult.
Non-Governmental Organizations		
1. Conduct survey of NGOs in State and organize workshop with NGOs.	March 1989 June 1989	SFD/ NGOs
2. Appoint NGO nodal officer in SFD.	Oct. 1988	SFD
Budget and Project Revision		
1. Revise project cost estimates.	Oct.1988	SFD/USAID/ IDA
2. Obtain final compliance with pending Special Covenant 6.2(d) of the Project Agreement.	Dec. 1988	FD/GOI/USAID

INDIA NATIONAL SOCIAL FORESTRY PROJECT

MIDTERM REVIEW

PART III: TECHNICAL ANNEXES

Report of the Joint Midterm Review Team
World Bank
U.S. Agency for International Development
Government of India

Prepared for Distribution by USAID/New Delhi
October, 1988

PART III: TECHNICAL ANNEXES

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LIST OF ACRONYMS

ACCF -- Additional Chief Conservator of Forests
AERC -- Agro Economic Research Centre, Himachal Pradesh University, Shimla
ASAP -- As soon as possible
BAIF -- Bharat Agro Industries Foundation, Pune
CCF -- Chief Conservator of Forests
CF -- Conservator of Forests
CFS -- Cooperative Forest Society
CWL -- Community Woodlot
DCF -- Deputy Conservator of Forests
DFO -- District Forest Officer
DNE -- Department of Nonconventional Energy
DPAP -- Drought Prone Area Programme
DRD -- Department of Rural Development
DRDA -- District Rural Development Authority
FD -- Forest Department
FG -- Forest Guard
FR -- Forest Ranger
Fr -- Forester
FY -- Fiscal Year
G.O. -- Government Order
GOG -- Government of the State of Gujarat
GOI -- Government of India (Central Government)
GOHP -- Government of the State of Himachal Pradesh
GOR -- Government of the State of Rajasthan
GOUP -- Government of the State of Uttar Pradesh
HA -- Hectare
H.P. -- Himachal Pradesh
IRDP -- Integrated Rural Development Program
IRMP -- Integrated Resourcess Management Plan
IDA -- International Development Association of the World Bank
IFY -- Indian Fiscal Year
LFG -- Lady Forest Guard
M&E -- Monitoring and Evaluation
MFP -- Minor Forest Products
MOA -- Ministry of Agriculture, Government of India
MOEF -- Ministry of Environment and Forests
NABARD National Bank for Agriculture and Rural Development
NDDB -- National Dairy Development Board
NREP -- National Rural Employment Programme
NSFP -- National Social Forestry Project
NWDB -- National Wastelands Development Board

LIST OF ACRONYMS (CONTINUED)

PACD -- Project Assistance Completion Date
PIL -- Project Implementation Letter
PCCF -- Principal Chief Conservator of Forests
RLEGP - Rural Landless Employment Guarantee Program
RDC -- Rural Development Corporation
RS -- Rupees
RDF -- Rehabilitation of Degraded Forests
RDA -- Rehabilitation of Degraded Areas
SAU -- State Agricultural University
SFW -- Social Forestry Wing
SFD -- State Forest Department
SMS -- Subject Matter Specialist
SOE -- Statement of Expenditure
SOW -- Scope of Work
T&V -- Training and Visit
USAID - U.S. Agency for International Development
VDC -- Village Development Committee

PART III: ANNEX 1

ECONOMIC ISSUES

B. Sen, Agricultural Economist
USAID, New Delhi

PHYSICAL ACHIEVEMENTS

1.01 There have been shortfalls in every component of the project except farm forestry. The cumulative achievements in farm forestry, which exceed the targets by about 15 percent, are due to the impressive surge in Gujarat where achievement exceeds target by about 180 percent. In the other three States, however, the achievement is between 60 and 75 percent. Progress is uneven not only between States, but also among different regions within each State.

1.02 The gap between planned targets and achievement is due to a variety of factors, some short-term and others long-term. Prolonged and successive years of drought have affected planting in Rajasthan and to some extent in Gujarat; it has also affected planting, seedling production and distribution adversely during 1987/88 in Uttar Pradesh. There have been shortfalls in budgetary allocations; organizational and staffing problems have come in the way of better performance in a few States. And finally, nonavailability of land has thwarted progress, as reported elsewhere in detail.

1.03 However, the project is only halfway through its life. To evaluate it at this stage in terms of physical targets and shortfalls in achievement alone would be to lose sight of the long-term perspective. Conditions would change with normal weather, enhanced budgetary support, implementation of new technological models and organizational changes now proposed. These changes and modifications would ensure better results in the next two years. It is therefore more appropriate to review the trends that have emerged over the last few years - trends which have implications for the project's stated goals.

PRODUCTION AND SUPPLIES

1.04 First and foremost, the trends in production and supplies of fuelwood, small timber and construction material are encouraging. In the two States which have had a head start in social forestry - Gujarat and Uttar Pradesh - production is more or less as anticipated. Supplies have started reaching the markets, increasing product availability and making a small impact on local prices. The products are being used as relatively inexpensive substitutes for scarce and expensive materials normally used for construction, commercial and domestic needs. The availability of these products has relieved some pressure on natural forests, and that is an important gain.

1.05 In Rajasthan and Himachal Pradesh, social forestry is new and its products will not enter the market in any significant way for another few years. The rather high average mortality rate of between 30 and 45 percent is partly the result of prolonged and extended drought in these two States. Given normal weather in the next two years, the survival rate would improve. On the whole, it appears from the progress of farm forestry that the project is meeting its primary objective, that is, to increase production and supply of scarce wood products in a cost effective way.

FARM INCOME

1.06 Income benefits to early individual participants in farm forestry in Gujarat and Uttar Pradesh have been considerable; the underlying trends suggest that these benefits would continue to be attractive. Rising demand for wood products on the one hand and declining supplies on the other have pushed market prices to a high level. Since the situation is unlikely to change drastically in the foreseeable future, income gains of participants in farm forestry should continue to be substantial. Furthermore, since any incremental rise in outputs of farm forestry are small relative to total market supplies, a general market saturation is unlikely. Even in exceptional situations, the multi-product nature of most trees would enable conversion from a product which is in temporary surplus to one for which there is demand.

1.07 These considerations should not generate a sense of complacency, however. Although the operational efficiency of the market is a major determinant of income in farm forestry, little is known about the existing market for wood products, the various channels, intermediaries and their functions. To generate the required information, it is necessary for the State Forestry Departments to initiate studies of the existing markets and marketing opportunities for farm forestry products. Gujarat and Uttar Pradesh have had fairly long experience with the marketing of farm forestry products; this experience needs to be pulled together and analyzed.

1.08 Farmer preference for species seems to be diversifying somewhat in Rajasthan and Himachal Pradesh. In Rajasthan, farmers are showing increasing preference for fuel and fodder species; in Himachal only 61 percent of species planted by farmers are Eucalyptus. In the other two States the shift is not as yet as pronounced. The move towards diversification could enlarge the scope for the establishment of improved orchards. Several forest species can be improved by grafting superior material on to wild rootstock. One example is Zizyphus mauritania which is included in a pilot scheme in Rajasthan. It has the advantage of high profitability; additionally, returns to farmers start flowing in from the second year of investment. The progress of this scheme as well as its impact on markets and prices should be closely monitored to test the feasibility for large-scale operation.

EMPLOYMENT

1.09 There is no doubt that the project is generating a large volume of additional employment, especially at the local level. This is most evident in the departmentally implemented components, such as community woodlots and rehabilitation of degraded land. The process of planting, replacing, and maintaining such plantations are also labor-intensive. However, employment so generated is neither long term nor sustainable. While preplanting and planting operations generate the most employment, replacement and maintenance operations require few labor days. Additional employment seems to peak in the first year then drop off very sharply in the next two years.

1.10 Employment created in farm forestry is still less. Farmers, by and large, have not taken for farm foresty as specialized tree farming, where considerable inputs (including labor) are needed to produce high value outputs. On the contrary, they tend to apply inputs, including labor, minimally. However, as long as farm forestry remains confined to unproductive marginal land and to boundaries of agricultural land, there is no displacement of labor or decrease in employment.

EQUITY

1.11 Closely related to income and employment is the question of equity. The project addresses this question in a number of ways. In farm forestry, one way of ensuring equity in terms of access to seedlings is by setting up a widespread network of decentralized nurseries that would reduce the distance farmers have to travel to lift seedlings. Progress toward the establishment of decentralized nurseries has been significant so far in Gujarat and Uttar Pradesh.

1.12 At the village level in all States, there is evidence that all types of farmers, large, medium and small, have been participating in farm forestry, but it is not possible to quantify at this stage the precise proportions of different groups of farmers lifting seedlings. It should be possible to generate the required information in a cost-effective way by recording in the nursery register the size of the holding of the farmer lifting seedlings.

1.13 The tree tenure component of the project was designed to provide opportunities for the landless to participate in the project and benefit from it. It is a very small component (about 3 percent of total target area under NSFP). Despite a few encouraging examples, it has not been a success for reasons indicated elsewhere. The experience of last three years indicates that opportunities for involving the landless in the project are difficult to expand.

1.14 Similarly, the community woodlot component was designed as an experimental effort to provide some tangible benefits (fuel and fodder) to the village poor. The scale of benefits possible for village poor from community woodlots is illustrated by the record of 30 community woodlots in Gujarat harvested in 1986. The monetary value of the fuelwood, grass and minor forest produce distributed freely to the village poor at the time of felling amounted to Rs 195 thousand or about 15 percent of the total sale receipts. This figure does not include the value of grass and other products collected by rural poor over the last ten years in this group of woodlots.

1.15 A major constraint to extending these benefits is the availability of community land. Except in Rajasthan, community wasteland is extremely limited, and where it is available, it is very small in size, varying from 2 to 4 hectares. There are also conflicting claims on such land for alternative uses - grazing or building a school, for example. Fuel or fodder supplies from such small plots hardly go far towards meeting the needs of the poor. It is a telling fact that of the 30 community woodlots in Gujarat set up between 1974 and 1976, only eight had plot sizes greater than four hectacres.

1.17 Progress in eliminating subsidies has been uneven. Himachal Pradesh currently charges Rs 0.15 per seedling whereas the average cost per seedling is close to Rs 1.00. Uttar Pradesh charges a flat price of Rs 0.30 per seedling which may be close to the cost of production of Eucalyptus. The limit for free distribution of seedlings in Gujarat is being reduced to 400 this year and the price increased to Rs.0.10 per seedling. In Rajasthan seedlings are still distributed free and without limit; a Forest Department proposal to restrict free distribution to 100 per family and to charge a nominal price of Rs 0.10 - Rs 0.20 per seedling beyond this limit has been pending with the State Government for some time.

1.18 Uttar Pradesh alone has completed the study of farmer response to seedling pricing. This study, based on a sample of 1200 farmers, has estimated a schedule of farmers' planting intentions at varying seedling prices. The most important finding is that the schedule is price inelastic within the relevant range of prices : a 33 percent increase in prices would reduce seedling offtake by only 5 percent; in other words, if the selling price of seedlings in Uttar Pradesh were raised from the current level of Rs.0.30 per seedling to Rs.0.40 per seedling, offtake could be expected to decline by no more than 5 percent.

1.19 While these results are valid for Uttar Pradesh, they cannot be readily generalized for other States. Each State must study its own farmers' responses to pricing as well as determining the cost of production of seedlings of different species at the nursery level. The results of these two studies would provide an adequate basis for implementing more realistic differential and full cost pricing of seedlings.

1.20 In addition to seedling distribution, subsidies are also involved in several of the socially oriented components of the project, including the private wasteland rehabilitation in Gujarat and Himachal Pradesh and tree tenure in Uttar Pradesh and Rajasthan. Unfortunately, many of these experimental programs have not made much progress and are now being reduced or phased out. As a result, the amount of subsidy would further decline in the total project.

COSTS AND RETURNS

1.21 The benefits from different components vary a great deal from farm forestry, where they are the greatest, to strip plantations where they are the least. The costs also vary, the highest being in strip plantations and the lowest in farm forestry.

1.22 The particular mix of the components in NSFP represents a compromise between different objectives in such a manner that overall viability of the entire project remains high. Accordingly, the proportion of strip plantations has been kept at a low level (3% of total land area to be covered), whereas the proportion of farm forestry has been fixed at a relatively high level (73% of total area to be covered). There have been no major developments either in costs or benefits in the last three years to warrant a revision of ex ante estimate of the rate of return. Since the project is only half way through its course, data are not yet available for an ex poste evaluation of costs and benefits.

1.23 The data on the group of 30 community woodlots in Gujarat referred to earlier provide some indications about their viability. These woodlots, set up between 1974 and 1976, will remain productive for another 20 years. Using a few simple though conservative assumptions regarding the annual output of grass, leaf fodder and fruits, and based on the record of harvest sales, the annual streams of costs and benefits have been estimated. The estimates are shown in Annex 1: Table 1, and the assumptions are spelled out in the accompanying notes. Costs and benefits have not been shadow-priced, but they have been converted to real costs and benefits by the use of a price index. The internal rate of return for this group of woodlots turn out to to be 15 percent.

1.24 In Annex 1: Table 2, the estimated internal rates of return for a selection of 11 community woodlots from the same group have been shown. The estimates vary from a low of 10 percent to a high of 29 percent. This exercise indicates that the returns to investment in community woodlots would vary from one woodlot to the other, but that most woodlots are viable; taken together as a group, community woodlots would provide a substantial return.

ANNEX 1: TABLE 1

COST-BENEFIT ANALYSIS OF 30 COMMUNITY WOODLOTS IN GUJARAT

YEAR	TOTAL COSTS (Rs)	BENEFITS (Rs)	REAL COSTS (Rs)	REAL BENEFITS (Rs)	REAL INCREMENTAL BENEFITS (Rs)
1	83535		83535		- 83535
2	185247		187307		-187307
3	70773		70141		- 70141
4	32873	34340	30983	34340	3357
5	6961	34340	6560	34340	27780
6	6961	42684	5600	34340	28740
7		62315		42420	42420
8		68168		42420	42420
9		69950		42420	42420
10		76568		42420	42420
11		81997		42420	42420
12		1289429		630836	630836
13				42420	42420
14				42420	42420
15				42420	42420
16				42420	42420
17				42420	42420
18				42420	42420
19				42420	42420
20				42420	42420
21				378501	378501
22				42420	42420
23				42420	42420
24				42420	42420
25				42420	42420
26				42420	42420
27				42420	42420
28				42420	42420
29				42420	42420
30				378501	378501

Internal Rate of Return = 15 percent

NOTES ON ANNEX 1: TABLE 1:

1. The total cost of 30 community woodlots covering 202 hectares was Rs.386,736. The year-wise breakdown of total costs is as follows:

Year	Percent
1	21.6
2	47.9
3	18.3
4	8.5
5	1.8
6	1.8

2. The annual benefits include the following : (a) From years 4 to 6: 400 kg of grass per hectare and 60 kg of Ber and other fruits valued at Rs.170 at base year prices; (b) From years 7 onwards, 600 kg of leaf fodder per hectare and 60 kg of fruits valued at Rs.210/- at base year prices; (c) Revenue from felling of trees in 3 years: year 12, 21 and 30. Coppicing species constitute 60 percent.

3. Real costs are total costs adjusted for inflation. Deflators have been derived from the Wholesale Price Index with the base shifted from 1970-71 to 1974-75. The deflators are as follows :

1974/75	100.0	1980/81	146.9
1975/76	98.9	1981/82	160.7
1976/77	100.9	1982/83	164.9
1977/78	106.1	1983/84	180.5
1978/79	106.1	1984/85	193.3
1979/80	124.3	1985/86	204.4

4. Real benefits are likewise benefits adjusted for inflation. Deflators are same as in item (3) above. By using price deflators, costs and benefits have been valued at base years' prices and made comparable.

ANNEX 1: TABLE 2

INTERNAL RATES OF RETURN ON INVESTMENT IN SELECTED COMMUNITY WOODLOTS IN GUJARAT

VILLAGE	DISTRICT	YEAR OF FORMATION	AREA (HA)	IRR (%)
1. Fadvel	Valsad	1975-76	4	21
2. Kachhal	Surat	1975-76	4	29
3. Kaliyari	Valsad	1975-76	4	24
4. Dhanori	Valsad	1974-75	4	21
5. Balol	Mahesana	1975-76	4	19
6. Vankia	Amreli	1975-76	35.2	21
7. Dhamdhadi	Surat	1975-76	8	25
8. Dengam	Ahmedabad	1974-75	4	14
9. Ten	Surat	1975-76	4	15
10.Bachar I	Vadodara	1975-76	4	10
11.Bachar II	Vadodara	1975-76	4	28

PART III: ANNEX 2

ENVIRONMENTAL IMPACT

Wayne Myers, Forestry Advisor (JCC)
USAID, New Delhi

INTRODUCTION

2.01 One of the rationales of the donors and GOI in promoting the National Social Forestry Project is that progressive degradation of the environment will be arrested or reversed as one of the outcomes. As against these expectations, there has been a degree of recent public criticism that environmental amelioration is not being achieved and that in some cases, environmental problems may even be exacerbated.

2.02 The expectation of environmental benefits appears to rest primarily on two assumptions. The first assumption is that treated lands will satisfy the demands for forest products sufficiently to reduce exploitative pressure on other forest lands. The second is that erosion will be controlled and/or fertility increased on the lands treated. Increased biodiversity, stabilization of hydrologic cycles, and aesthetic improvement are additional potential benefits in certain landscape settings.

2.03 In the following sections, the observed status of the potential primary benefits is first described. Thereafter, influencing factors are considered and secondary effects reviewed. Recommendations for fully realizing potential environmental benefits constitute the concluding section.

OBSERVED STATUS OF ENVIRONMENTAL BENEFITS

2.04 Field visits to the four States indicated both successes and failures regarding the first assumption of relieving pressure on forest lands. The successes lie in satisfying the demands of the commercial sector with products from private plantations. The best example is the use of Eucalyptus from private plantations in adjoining states for making apple crates in Himachal Pradesh, thus removing a heavy drain on natural forests. More directly as a consequence of the present project, urban fuelwood markets are being supplied to the extent that fuelwood prices are declining in some areas as a reflection of price elasticity. The latter was particularly noted in Gujarat and Uttar Pradesh.

2.05 Although plantations have provided some fuelwood for local use through lops and tops, neither private nor public plantations have been very effective in reducing local village pressure on nearby forest lands. This failure is due primarily to the commercial orientation of plantations on public lands and the failure to plan social forestry operations in the context of local land use patterns. These factors are considered further below.

2.06 With respect to the second assumption of achieving soil and moisture conservation on treated lands, the observed effects are best described in terms of the technology being used. The technology is broadly of two types: One type consists of conventional block plantations of fast growing tree species. The other is agroforestry, in which individual trees or rows of trees are planted in various combinations with annual crops.

2.07 Since the effects of the interplanting technology of agroforestry are subject to fewer conditionalities, it is convenient that they be described first. Rows of trees serve as a windbreak to reduce soil loss through wind action. Likewise, the soil binding effect of the tree roots serves to reduce erosion from both wind and water action.

2.08 The presence of even a partial canopy during periods with no crop cover reduces the impact velocity of precipitation and thereby also reduces erosion. Therefore, the strip and interplanting activity has a positive effect in reducing soil erosion. (The effect on moisture conservation is more problematic since evapotranspiration from the canopy may be greater or less than that from crops alone or exposed soil surfaces.)

2.09 The interaction of trees and annual crops arises from root competition, shading effects, and air circulation. The net effect of these factors can be complex, and requires sophisticated management to obtain the most favorable balance. As observed in the field, such sophisticated management was generally lacking.

2.10 A net gain from windbreak effects is possible through the selection of tree species with taproots and few laterals and the placement of polyethylene root barriers and canopy density control. However, this was generally not being accomplished by farmers. Thus crop yields are unnecessarily reduced in the immediate vicinity of trees and shading effects may be more extensive in areal terms than should be the case.

2.11 Relative to block planting technology, the erosional and hydrologic effects are determined by the impact velocity of precipitation, infiltration rate, and runoff velocity. The only simple generalization is that the presence of vegetation is more favorable in all respects than the absence of vegetation. Since treated lands had often been formerly barren and under pressure from overuse by livestock, the presence of plantations had consequently produced favorable effects in terms of all ecological variables. Where the pre-existing condition was not that of virtually barren land, this generalization is considerably more difficult.

INFLUENCING FACTORS AND SECONDARY EFFECTS

2.12 Field observations produced the inescapable conclusion that the single most important effect arises from simply regulating access by livestock. Wherever livestock access is controlled, natural regeneration of vegetation typically produces at least partial ground cover of grasses within two years, and shrubs also colonize quickly.

2.13 Such grasses and shrubs are themselves quite effective in terms of soil/moisture conservation. Furthermore, controlled hand harvesting of grasses and shrubs by villagers from nonprivate lands provides fodder and fuel that are the commodities most in demand, next to cash income, among the villagers. Cash income, however, is normally the primary objective of villagers for plantations on private lands.

2.14 With few exceptions, the plantation technology observed had the primary objective of producing cash income through the sale of wood at the end of a fixed rotation, typically on the order of 15 years. Fast growing tree species were planted at relatively close spacing, generally in a grid pattern. Site preparation often involved considerable earthwork and removal of potentially competing vegetation. The soil surface was thus exposed to erosion at the time of plantation establishment.

2.15 In Gujarat and Rajasthan, contour gradonis or box trenches were used to reduce erosion on slopes, but these are high cost items that limit the amount of area treated. In Himachal Pradesh and Uttar Pradesh there was seldom any adjustment of site preparation techniques according to erosion hazard. The consequences of neglecting site stabilization measures were particulary apparent on the unstable slopes of Himachal Pradesh. The seedlings themselves provide very little site stabilizing effect until their root systems become established and a partial canopy develops after about three years.

2.16 Aside from contour earthwork, the primary site stabilizing effect during the first three years was the incidential growth of grasses, which also provided early intermediate products to villagers through hand harvesting. After about three years, there is a progressive suppression of the grass growth by the closure of the tree crowns. It is questionable whether the crown canopy is as effective as a shrub/herbaceous understory for site stabilization and reduction of runoff. The major reason for this is the almost universal practice among villagers of removing leaf litter from the plantations.

2.17 The situation with respect to soil/moisture conservation can be summarized by stating that this aspect of social forestry has not received adequate attention. Site suitability classification with respect to erosion hazards has not been effectively employed. Low cost vegetative site stabilization techniques using understory species have not been exercised. Thus the realization of soil/moisture conservation benefits has fallen short of the potential, often considerably so.

2.18 There appeared to be more heat than light associated with the Eucalyptus controversy. Until recently, the choice of eucalypts had been pervasive. There is at present, however, a noticeable trend away from eucalypts for planting on nonprivate lands. Farmers still plant eucalypts extensively because of rapid economic returns andalso because the seedlings are the most readily available. The hardiness and metabolic efficiency of the eucalypts planted in India are obvious, although they were observed to do poorly in competition with indigenous species on the better sites.

2.19 For simple survival under harsh site conditions, eucalypts are exceeded only by a few species, such as Prosopis juliflora. Since social forestry efforts are wasted in the absence of survival, this factor is not inconsequential. Furthermore, in the formerly almost treeless Indo-Gangetic plains, the overall landscape diversity and aesthetics have been considerably enhanced by boundary plantings of eucalypts. Also, large wildlife species, such as the nilgai in Gujarat, were observed to use plantations of eucalypts as cover.

2.20 There is, however, considerable research evidence that eucalypts are not as effective as many other agroforestry species for improving soil properties. Field observations also indicate that eucalypts are not the preferred habitat for avifauna and small mammals. From the point of view of the farmers, this latter may be an advantage, although certainly not so with respect to overall biodiversity.

2.21 Scientific studies on the ecological and agronomic properties of eucalypts are now becoming available. Compilation of these studies is to be encouraged so that public debate can become more informed and objective. It might also be noted that many of the observed effects of eucalypts are a consequence of its fast-growing nature, and will be found also in similarly fast-growing plantations of other species.

RECOMMENDATIONS

2.22 Develop a site suitability classification system based on slope, soil, and existing extent of erosion. Prescribe appropriate site stabilization measures for each site suitability class with low cost vegetative techniques being used instead of earthwork. Such vegetative techniques involve planting contour hedges of low growing indigenous shrubs and maintenance of grass/herbaceous cover on the ground surface through wider spacing of overstory trees. This would reduce the canopy density and admit light to lower levels.

2.23 Plan social forestry operations in the context of local land use patterns to satisfy village needs for fodder and fuel, particularly from public lands. This will involve an initial map-based analysis of habitation, land ownership, and land use in each locality considered for social forestry development. The purpose of this analysis will be to identify paths of movement used by villagers for exploitation of forest lands and the location of parcels along these routes or close to villages which might be candidates for development, such as demarcated forest lands, revenue lands (not encroached), panchayat lands and rights-of-way. Demarcated forest lands are perhaps the most appropriate by virtue of the legal jurisdiction already residing with the Forest Department. Roadsides are advantageous because they lie along paths of movement.

2.24 Proceed with development only where enough available land can be identified so that an appreciable portion of local needs can be provided thereon. Where there is not enough land available to achieve this minimal level of effect, social forestry operations should be limited to private plantations and to the provision of rural roadside hacking strips as outlined below. Beyond this, developmental costs would be better allocated to other localities where an appreciable impact is possible.

2.25 Where blocks of nonprivate land are available, they should have low growing shrubs with coppice capability planted in contour strips. Widely spaced trees, chosen for fodder value, should be planted between the shrub strips. The tree density should be planned with a degree of openness that will permit the growth of grass and herbaceous fodder species as a ground cover between the strips.

2.26 Give total protection to an area only long enough for the establishment of a grass/herbaceous cover. Thereafter, the handcutting of grasses should be permitted but protection otherwise continued until the shrubs are well established and trees grow above browse level. At this stage, the area should be turned over for community management by rotating coppice of shrubs for fuelwood and similar regularized lopping of trees for fodder. Lopping should be sufficiently heavy to prevent crown closure of the degree that would suppress understory growth.

2.27 The one practice that must be avoided is that of uprooting plants. There should be no roundwood rotation as such. Trees can be salvaged when mortality occurs. At such time as the overstory may become overly sparse, portions of the area can be closed to livestock for replanting of trees. Such replanting should not, however, involve destruction of other cover components. Understory components should not require replanting, and hand harvesting can continue while the trees are becoming established.

2.28 Close off areas with badly abused ground cover to livestock periodically in a rotational pattern. Forage management entirely by handcutting and stall feeding should be encouraged wherever possible. Boundary demarcation should be done through live fences, and havesting of fuelwood from these should be permitted once well established.

2.29 Although the result will not be particularly aesthetic, plantings along rural rights-of-way should take the form of densely planted, very hardy coppicing shrub species on which hacking by villagers is not only permitted after initial establishment but even encouraged. The strategy here is to provide readily available, if not the most desirable, sources of fuelwood. Observational evidence indicates that villagers will hack supposedly nonpreferred species, such as Ipomea, in preference to walking additional kilometers for other materials. In this case, the expedient approach is to forget about systematic management and take advantage of existing patterns of exploitation to avoid the need for continuing attention. If the strip becomes so badly abused as to be nonproductive, it can be fenced temporarily for re-establishment.

2.30 Promote the observed trend toward wider spacing and mixed species in private plantations through extension activities and technical advice. Eucalypts should be avoided entirely for plantations on nonprivate lands because of their lack of fodder value and relative ineffectiveness in soil building.

2.31 Support the development of a stronger research program addressing management of mixed-species plantations, low cost site stabilization techniques, and analytical planning methods. Promote exchange of information between States and development of common research agendas through workshops and field trips.

2.32 Provide software, hardware, and technical assistance for application of computer based technologies such as geographic information systems.

2.33 Establish provisions for scheduling annual harvest of fodder and/or fuelwood starting from the second year after establishment of block plantations on nonprivate lands.

2.34 Establish provisions for coppice harvesting of fuelwood starting from the fourth year after establishment for strip plantings on rights-of-way.

PART III: ANNEX 3

LEGISLATIVE ISSUES

Chhatrapati Singh, Consultant
Institute of Law, New Delhi

INTRODUCTION

3.01 The legal framework within which the National Social Foresty Project is executed is as important as its managerial and technical aspects. To make the project operationally feasible and also social, it is necessary that the law provide the framework within which the objectives of the project can be achieved. This can happen only if the laws and rules concerning tenure, lease, usufruct rights, management, inter- or intra-agency contracts, and ground level organizational set-up are conducive to the realization of the goals of the project.

3.02 Keeping these factors in mind, an appraisal of the existing laws and rules and their implementation was done for the four States under the project, namely Gujarat, Himachal Pradesh, Rajasthan, and Uttar Pradesh. The appraisal was carried out with reference to each major component of the project to which legal provisions are applicable, that is: farm forestry, community woodlots, tree tenure schemes, rehabilitation of degraded forests and strip plantations.

3.03 The methodology of research for this appraisal was two-fold: first, a study of the existing laws, rules, ordinances, government and administrative orders was carried out at the State capitals. This was followed by field visits to sample areas in each State to see the actual implementation and effects of the laws, as well as any customary rules or practices.

3.04 The major conclusion of the appraisal, after survey and study of the four States, is that the laws and rules, as they presently exist, are prohibitive of social forestry and of the achievement of some of the main aims of the project. Although in terms of plantation and production, the project seems to be progressing, it is unlikely that the benefits will reach the target groups to the extent planned.

3.05 There are two major reasons why the laws are prohibitive. First, most of them were enacted when afforestation was not a major developmental concern; other matters, such as land ceiling, preservation of natural forests, improvement of agriculture, and others, were more pressing. Many provisions of the law concerning such matters now come in conflict with the goals of afforestation.

3.06 The second major reason is that although the Central Government is eager to encourage social forestry, the States, under whose jurisdiction afforested lands actually come, have made little progress in amending the laws and rules to facilitate social forestry projects. Some of the major legal aspects which need immediate attention are discussed in the following sections.

SUMMARY OF LEGAL ISSUES

Farm Forestry

3.07 The taxation rules in some States, such as Rajasthan, need to be repealed. Heavy tax on farmers' trees discourages farm forestry.

3.08 The transit, harvesting and marketing rules need to be rationalized in all States. They need to be imposed only where there is an actual danger of illegal felling of natural standing forests.

3.09 Species selection is restricted by law since the notified or 'royalty' trees cannot be cut without the government's permission. Such restrictions are counter-productive to the promotion of farm forestry.

3.10 Some 'farm forestry' is actually farmers' land being managed by the Forest Department under Sec 38 of the Forest Act. This is a joint management plan and not genuine farm forestry. In this arrangement, the farmer is merely leasing out his land to the Department; he does not have a right to fell the trees. Such taking over of private lands by the government does not amount to social forestry. It needs to be discouraged.

Community Woodlots

3.11 The legal status of the 'community' executing community woodlot schemes is often vague. The people are not in a position to actually negotiate the terms of contract with the Forest Department and are sometimes in conflict with the interests of the local government (panchayat). Where possible, the schemes need to be carried out directly within the legal arrangements of the panchayats; the Panchayat Act needs to be amended for this purpose.

3.12 Appropriate legal models for benefit sharing and usufruct rights have not been worked out with the communities. They have been verbally assured in some places, but there is no legal document to guarantee the benefit sharing. Hence the people are not really legally involved.

Tree Tenure

3.13 Tree tenure is, by and large, a failure because available, legally non-problematic, free-hold public land is insufficient for distribution for usufruct (tree) tenures. There is a reluctance to privatize common panchayat lands, since they are used in common for grazing, fodder and other purposes. It is not advisable, from this perspective, to give tenures on panchayat lands. Alternative land and alternative legal models have not been explored to make this scheme possible. Moreover, the inter-departmental coordination required for its success is also totally missing.

Rehabilitation of Degraded Forests

3.14 The benefit sharing aspect of this component is totally ad hoc and dependent upon the good will of the forest officers since the State governments have not passed orders to officially share the benefits. Legally there are two ways of such sharing: either the Forest Departments can give tree-tenures and other usufruct rights to the local people, or the Department can itself do the harvesting and share the produce with the people through auctions. The former strategy involves the Forest Conservation Act, and hence the Central Government, and the latter depends upon appropriate orders being issued by the State governments. (The case of Himachal Pradesh, however, is different. There, since the forest settlement has not taken place as yet, the granting of rights needs to be rationalized.)

Strip Plantations

3.15 Some States come under the Forest Conservation Act since these plantations have been classified as Protected Forests. Giving usufruct rights or tree-tenures in such plantations is not possible without the Centre's permission. The States have made no demand, so far, in this direction.

GUJARAT

RELEVANT LAWS

3.16 In the context of social forestry in Gujarat, the following laws are directly or indirectly relevant:

The Indian Forest Act, 1927 (Amended by Gujarat Act 48 of 1963).
The Baroda State Rules Regarding the Removal of Forest Produce, 1963.
The Bombay Land Revenue Code, 1879 (Secs: 37-44, 135A, 135B).
The Bombay Land Requisition Act, 1948 (Secs: 4, 5, 8, 9, 22).
The Gujarat Agricultural Tree Felling Act, 1961.
The Gujarat Panchayat Act, 1961.
The Cooperative Societies Act, 1912 (As amended by Gujarat, 1961).

GENERAL

Status and Issues:

3.17 All of the above Acts need to be amended in one way or another to make social forestry successful in the State of Gujarat. However, the most significant obstacle to social forestry is that the Gujarat Government has placed a moratorium on the harvesting of all annual crops for a period of five years beginning from February, 1987. (Vide Govt. of Forests Environment Department Resolution No FLC/1086/2294/V-3 of 6th Feb. 1987).

3.18 It is not clear whether this resolution applies to social forestry projects. The various government departments, including the Forest Department, have, however, ceased felling of all trees, on all projects, till proper clarification is given. No crops have been harvested by the Forest Department since March, 1987. The department has sought clarification from the government and asked for exemption for social forestry, for certain commercial forestry and for keeping certain contractual obligations with the NABARD valid.

3.19 As it stands, the resolution comes directly in the way of the fulfillment of the objectives of social forestry. No exemption has been given to date, and it seems that for political reasons this is not likely to happen for another year: The cooperatives that organize the felling and marketing of trees are led by political leaders who are presently in the opposition.

3.20 Under various government orders and schemes, afforestation work is being carried out on revenue, gochar and panchayat lands by different agencies simultaneously. The Department of Rural Development is executing the NREP, RLEGP, and the Drought Prone Area Projects (DPAP). Land availability for social forestry by the Forest Department is thus very limited. The Land Development Corporation is also to engage itself in afforestation work.

Recommendations:

3.21 Revoke the FD Resolution No FLC/1086/2294/V-3 of 6 Feb 1987 at once. If trees are to be conserved, a rational area and need-wise ban will be practicable. Prohibiting the execution of the social forestry project (in so far as felling and harvesting of community woodlots are concerned) makes little sense: Schemes directly beneficial to the rural poor must be exempted from such bans.

3.22 Define more clearly the land use policy by the government so that different rural development schemes and agencies do not work on the same piece of land. Forestry work seems to be done much better by the Forest Department, in comparison to other departments. Hence, for land to be afforested, it will be advisable to engage the Forest Department only.

COMMUNITY WOODLOTS

Status and Issues:

3.23 Community woodlot schemes have been carried out by the Forest Department not only on panchayat lands by also on revenue lands in proximity of the villages. (About 10 percent of such village woodlots are actually on revenue lands.) The Forest Department plans (hopes) that these revenue lands will become vested with the panchayats.

3.24 The usufruct and beneficiary rights on panchayat and gochar lands are regulated by the Forest Department of the Government of Gujarat, Order No. PRS-1080-87452-V-3, of 30 April 1987. This order allows for tree pattas and for harvesting of coupe on panchayat lands so that benefits can be shared between the gram panchayat and Forest Department. During 1986-87, some village woodlots were harvested and the benefits shared with the villagers.

3.25 The usufruct and beneficiary rights on revenue wastelands (not gochar or panchayat lands) are regulated by the Revenue Department of the Government of Gujarat, Order No. 3986-2226 (m) of 1st Jan. 1987. Land pattas under this order are to be given to individuals and institutions. The reasons for the Forest Department taking up revenue land as village woodlots is the non-availability of sufficient panchayat lands to meet the targets under the project.

Recommendations:

3.26 Amend the Gujarat Panchayat Act, 1961 (especially Sections 96, 97, 201) to make village forests a public-purpose (development) activity under the Act or else the village woodlot idea is unsustainable. Finances must be demarcated and separated and obligations placed on the panchayat to sustain the village forests. Although the administration of village woodlots should remain with the taluka panchayat (Sec 96,97), the funds raised from such woodlots should remain with the gram panchayat (Sec 97(2)).

3.27 The Act also needs to be amended so that the duties of the taluka and gram panchayats ensure that afforestation is carried out on the village woodlots on a continuous basis. The finances for regeneration must come out of the sale of village woodlots coupe. If the land is vested with the panchayats, some land (village woodlots) should be marked off for forestry purposes only.

3.28 The required amendments to the Panchayat Act need to be made part of the action plan of the NSFP.

FELLING AND TRANSIT RULES

Status and Issues:

3.29 The Saurashtra Tree Felling Act and various other rules made under the Indian Forest Act put restrictions on the felling, marketing and transit of various trees on private lands. These rules not only inhibit farm forestry, but also indirectly limit specie selection for farm forestry and social forestry.

Recommendations:

3.30 Rationalize the restrictions on felling and transport of timber, under the Tree Felling Act and other rules. A general ban applicable to private lands, patta lands and other lands is meaningless in the present context. In areas which are close to standing natural reserved or protected forests the restriction needs to be imposed, but in all other areas, especially those far away from the reserved government forests, all restrictions need to be removed if farm forestry is to prosper.

EMPLOYMENT

Observations:

3.31 In Gujarat the wages of labourers are regulated by the Labour Commissioner. Employment in afforestation programs is equated with industrial labour and not agricultural labour. As a consequence, the daily wages on the social foresty project are currently about Rs 17.45 (Rs 11 plus Daily Allowance). Both industrial and forest labour are regulated by the rules under the Minimum Wages Act. The wages in the project, under this Act, turn out to be more than provided for in the project.

COOPERATIVES

Observations:

3.32 The Gujarat Land Ceiling Act exempts cooperatives from the land ceiling provisions. The State, therefore, has encouraged and established numerous forest cooperatives. These cooperatives, however, participate almost exclusively in the harvesting and marketing of forest produce, including timber, but not in afforestation works. (These cooperatives are also highly politicized.)

3.33 The new Government Order, which provides for land pattas to cooperatives, has motivated some NGOs to form cooperatives (including among tribals) and demand land for social forestry work. The forest lands, on which such cooperatives are to work, come under the provisions of the Forest Conservation Act. This necessitates the Centre's permission before land allotments can be made. No cooperative has received land pattas on forest land and both the State and the Centre seem reluctant to make such allotments.

TREE TENURE

Observations:

3.34 The tree-tenure scheme should be executed on government lands acquired under the Ceiling Act and not on grazing or other common lands where the people have grazing, fodder or shrub rights. Degraded forest lands can also be used for this purpose.

HIMACHAL PRADESH

RELEVANT LAWS

3.35 The laws which have a direct or indirect bearing on the National Social Forestry Project in Himachal Pradesh are as follows:

The Indian Forest Act, 1927.
H.P. Land Preservation Act, 1978.
Forest Conservation Act, 1980.
H.P. Forest Produce (Regulation Trade) Act, 1982.
H.P. Preservation of Forest & Maintenance of Forest Based Essential Commodities, Act 1984.
H.P. Resin and Resin Products (Regulation Trade) Act, 1981.
H.P. Panchayat Act, 1968.
H.P. Village Common Lands Vesting and Utilization Act, 1974.
H.P. Ceiling of Land Holding Act, 1972.
The H.P. Cooperative Societies Act, 1959.
The Societies Registration Act, 1860.

GENERAL

3.36 In Himachal Pradesh, the people have traditionally had extensive rights in the forests, since the settlement of rights under the Indian Forest Act was not done. Since social purposes have been served by the natural forests, 'social forestry' takes a different meaning in this State, primarily referring to private lands (lying fallow) being used for plantation of forest species and to the rehabilitation of community land. The H.P. government is presently engaged in reducing the people's rights in forests and demarcating Forest Department lands.

3.37 Since the land transfer from the Revenue Department (which acquired all common lands, forests and shamlats before 1952) to the Forest Department is still to take place in most areas of H.P., appropriate legal models for community woodlots have not been worked out. There are some government guidelines, but they do not take into consideration the complex legal ownership issues. The scheme for tree-tenure is also at the consideration stage only, once again due to the non-clarity about the legal status of the land on which tree-tenures are to be given.

LEGAL STATUS OF THE LAND

Status and Issues:

3.38 Land status in H.P.is complex. To make appropriate legal models for social forestry purposes, this complexity needs to be understood in some detail. Unlike other parts of India, in H.P. the demarcation of land as 'forest land' began only two years ago. Before that, and since 1952, only a few specific areas were demarcated. A major reason for this is that Himachal Pradesh, as a separate political entity, came into being only about two decades ago. It took some time first to settle the newly emerged status from Punjab, and then, to demarcate and separate government lands from private lands.

3.39 After Independence in 1947, most of the demarcated government land with forest coverage was taken over by the Revenue Department. In 1952, by a Government Notification (under Sec. 4 of the Indian Forest Act, 1927), many areas belonging to the Revenue Dept. were 'transferred' to the Forest Department. This transfer was incomplete, however, because the subsequent settlement (under Sec. 16, 17 of the Forest Act) was not done by the Forest Settlement Officer. Hence, the demarcation of such transferred land as 'reserved', 'protected', etc. was not carried out.

3.40 Consequently, the Revenue Department's records were not altered. These lands with forest coverage continue to exist in Revenue records as revenue lands. The Forest Department's records (including Annual Reports), which show 32% of the land in HP as forest lands, are legally void. Actually only about 10-11% land is Forest Department land; the rest is still shown in the Revenue records as revenue land.

3.41 Realizing these serious difficulties, the H.P. government has now set up a special office of Chief Conservator of Forests-Settlement who is to administer the demarcation process. So far settlement in only one district (Chamba) has been completed, with a second one under way. The NSFP has been a catalyst in hastening this process.

3.42 The other categories of forest and grazing (common lands) in H.P. are the shamlat lands and rakha lands. The shamlats are common grazing land which came over to HP from Punjab when the districts and States were reorganized in 1962. The rakha are traditional forest preserves in H.P. managed totally by the local village people.

3.43 Through the H.P. Village Common Lands Vesting and Utilization Act, 1974 and the Land Preservation Act, 1978, the HP government acquired all these common shamlats and rakhas, the shamlats by the Revenue Department and the rakha by the Forest Department. In the land settlement process currently underway, all shamlats are to be transferred to the FD by the Revenue Department. So far this has been only partially accomplished. As for the traditional rakha (community woodlots), the local village people still view them as their own and continue to manage them. The government, in the meantime, has transferred the ownership to itself, but has so far not interfered with the traditional management.

Recommendations:

3.44 Finish the demarcation of forest lands under the Indian Forest Act, following the 1952 H.P. Notification at the earliest, for proper project planning.

3.45 Complete the transfer of forest land from the Revenue Department to the Forest Department at the earliest so that the land records can be set straight. Till this transfer is properly carried out, appropriate legal models for community woodlots cannot be worked out. The tree-tenure scheme will also remain tentative because the Forest Department will not be in a position to issue valid tree pattas.

COMMUNITY WOODLOTS

Status and Issues:

3.46 Although the true community woodlots in HP are the rakhas, described above, the government is not following this model in the National Social Forestry Project. Three community woodlots have been planted on shamlat lands (still belonging to the Revenue Department) and on other revenue lands (notified as forest land by FD, but not by Revenue Department).

3.47 There is no common land vested with panchayats in H.P. The FD has taken a resolution from local panchayats that the Rural Development Committees (RDC) or the Mahila Mandals will be allowed to work on these government owned common grazing lands. (The RDCs and Mahila Mandals are non-registered sub-committees under the panchayats, formed by the Rural Development Department for their own projects; the FD is making use of these bodies for social forestry purposes.)

3.48 There are no legal arrangements with the RDCs or the Mahila Mandals for benefit sharing. The FD has made oral promises to them, but the final decisions for benefit sharing will be made through the panchayats (since these other bodies are sub-committees under the panchayat). Until the land settlement is done with the Revenue Department, the FD is legally not in a position to enter into any contract with the panchayats. The legal arrangements in the interim period will have to be made through the Revenue Department.

3.49 The other type of community woodlots in HP are those managed by the Forest Societies. These are registered bodies which come under the jurisdiction of the Registrar of Cooperatives. Benefit sharing is regulated through the Cooperative Act.

Recommendations:

3.50 If true community woodlots are to be created, the model of traditional rakhas (before they were acquired by the Revenue Department) is the appropriate one, with its indigenous system of forest management. The Himachal Pradesh government must therefore do the following:

1. Identify the remaining rakhas with both forest coverage and operational indigenous management systems and reinvest them in the communities. Such lands could be vested in the panchayats (as is the case in many other States), with the proviso that such lands could be used only as rakhas and nothing else.

2. Amend the H.P.Panchayat Act as follows to protect and maintain such lands as woodlots:

a) Sections 18, 28, 52 can be amended to make the panchayats responsible for the maintenance of the woodlots. Section 28, especially, can be changed to make sure that a land once demarcated as a woodlot remains so.

b) Section 45 can be modified to allow them to take loans (NBARD) for the purposes of forestry.

c) Sections 116-138 can be modified to insure that from the funds raised through harvesting of village woodlots, the required amount will be reinvested in afforestation.

d) Chapter 10 of the Act will also have to specify that the funds raised through harvesting a village forest go primarily to the village and do not trickle down from the Zilla level. The administration of the funds can be monitored from the Zilla-Parishad level.

3.51 These issues concerning the Panchayat Act will become progressively important in the coming future, as the 'community woodlots' mature. Presently, the Forest Department is engaging the Village Development Committees or the Mahila Mandals through a Resolution of the Panchayats, to enable these sub-committees under the panchayats to enter into negotiations with the Department. But once the trees mature and large amounts of money are at stake, the effectiveness of these Resolutions is doubtful. It will be better, therefore, to enter into direct negotiations with the panchayats.

PRIVATE WASTELAND PLANTING

Status and Issues:

3.52 The FD has taken up 'joint-management plans,' under Sec 38 of the Indian Forest Act, 1927, to manage private degraded wastelands for farmers (Vide H.P. No: Ft.60-36/78(N)2406, dated 28/7/1984). Two schemes are being offered to farmers: Alternative I offers 100% subsidy by the FD, which then manages the crop until it is harvested (after at least 15 years, but which can be as many as 30 or 40 years). When the crop is harvested and sold, 25% of the sale proceeds will be retained by the FD and 75% will go to the farmer. Since this type of 'farm-forestry' is being done under Sec. 38 of the Forest Act, the land owner does not have the right to fell and sell the trees on his own. It is therefore technically (although not legally) equivalent to work on Rehabilitation of Degraded Forests (RDF). Alternative II offers material inputs (fencing and seedlings) free of cost--a 40% subsidy-- and no recovery at harvest time is required.

Recommendations:

3.53 Adopt only Alternative II, in which the Forest Department's input is 40 percent and no future recovey is expected. Section 38 of the Forest Act should not be invoked, since there is no legal necessity to do so. If the Forest Department wishes to make sure that the trees are not removed by the farmers (for agricultural purposes, for example), there are other methods to accomplish this, such as giving them incentives for surviving trees, as is being successfully tried out in Tamil Nadu.

TREE TENURE

Status and Issues:

3.54 Tree tenure (or pattas) have not been given in Himachal Pradesh as yet. A "Memorandum for Consideration of the Council of Ministers" has been prepared by the FD and sent to the GOHP and GOI. Approval by the GOI will be required, under the Forest Conservation Act, 1980, since the proposed patta scheme is to be implemented on forest land. (All public land with tree coverage, or on which trees can be/have been grown, were acquired by the FD vide 1952 notification).

3.55 In the meantime, the FD has done some planting on government wastelands (revenue lands/FD lands) and promised the people orally that if they maintain the trees, they will be given pattas after 5 years. The FD is hopeful that within 5 years the legal issues with the Revenue Department will be settled and permission received from the GOI.

3.56 On shamlats and traditional grazing lands, people have rights-in-common for fodder, cattle grazing, shrubs and wild fruits. Giving tree tenure on such lands amounts to privatizing the rights for a few, thereby restricting the rights-in-common. Such privatization can be challenged in court by other rights-holders and the courts will have to uphold Article 14, equality before law, and thus rights-in-common.

3.57 Tree-tenure on such lands is therefore not advisable, even if the panchayat has passed a resolution to allow certain individuals (or the Mahila Mandals or the Village Development Committees) to hold tree-tenures on common lands. As a matter of fact, panchayat resolutions to this effect have no legal validity because the rights-in-common did not arise from the panchayat; they arose either through customary law or due to the settlement of rights under the Forest Act.

3.58 Tree-tenure is viable on land where the people do not already hold rights, such as land acquired under the H.P. Ceiling of Land Holding Act, 1972, on the demarcated forest lands without rights, and revenue land which is not community land. Giving tree-tenure on forest lands attracts the provisions of the Forest Conservation Act, but the H.P. Government can get the permission of the Centre to operate such schemes where necessary. The tree-tenure scheme, as originally conceived, was to be implemented on revenue wastelands only, not on common lands. This original conception needs to be adhered to.

Recommendations:

3.59 An appropriate legal model for the tree-tenure scheme would be along the following lines:

a) Implement it on revenue wastelands, degraded forest lands or land acquired under the Ceiling Act, and not on shamlat or other community lands.

b) The Revenue or Forest Department must actually identify the available land for the scheme and not merely go by the land survey records. These records can be used as the starting point for identification, but actual land availability verification will have to be done for the project scheme area.

c) Only land for which verification has been done (both of land and beneficiary) can qualify for allotment. Merely allotting it on the basis of the land survey record or the census records will not qualify. The legal definition of 'allotment' needs to be carefully monitored so that there is not merely a de jure allotment of tree-tenure but a de facto one.

d) The allotment will be complete only when proper legal documents guaranteeing the tree-tenure are in the possession of the beneficiary.

e) The Forest Department must count as beneficiaries, under the tree-patta scheme, only those for whom steps (a) to (d) above have been completed.

RAJASTHAN

RELEVANT LAWS

3.60 In the context of social forestry in Rajasthan, the following laws become relevant:

Rajasthan Forest Act, 1953.
Rajasthan Panchayat Act, 1953.
Rajasthan Land Tax Act, 1985.
Rajasthan Tenancy Act, 1955.
Rajasthan Land Revenue Act, 1955.
Rajasthan Urban Land (Ceiling and Regulation) Act, 1976 (Central Act No. 3 of 1976).
Rules made under these Acts.

GENERAL

3.61 In Rajasthan, the social aspects of forestry (including benefit sharing, contractual arrangements, regulations and tenure, and involvement by the local people in afforestation programs) are still woefully underdeveloped. One major reason for this is the numerous legal obstacles which come in the way of almost all models of social forestry. For example, forestry is not equated with agriculture, which is exempt from taxation, but rather is subject to a heavy (50%) taxation rate. Also, procedures and restrictions on the felling, transiting, and marketing of trees are very complex, as are those regarding tree tenure, thus serving as effective deterents to farm forestry and tree tenure schemes.

3.62 Both the GOR and GOI realize this but very little has been done so far to bring about any effective change. Evidently, much stronger persuasion is required if the GOR is to show any urgency in the matter during the project period. The major legal hurdles which come in the way of different components under the National Social Forestry Project are discussed in the following pages, along with specific recommendations for amending the relevant sections of the laws listed above (and rules made under these laws) in order to improve the legal environment for social forestry in Rajasthan.

FARM FORESTRY

Status and Issues:

3.63 Under the Rajasthan Land Tax Act, 1985, (Relevant Sections: 2 (a) (ii), (f), (g) (i) (ii) (iii) etc.) a wealth tax of 50% has been imposed on private farmers on their total annual sale price for farm forestry products, whereas agricultural income is tax free. In contrast, the taxation rate is 2% for industrial or commercial forestry concerns. This amounts to telling the farmers to keep out of farm forestry and encourages only industrial houses to carry on commercial forestry. Forestry, like agriculture, needs to be exempted from income tax if it is to be encouraged.

Recommendations:

3.64 Amend Section 2 (a) (ii), (f), (g) (i), (iii) of the Rajasthan Land Tax Act, 1985 to exempt trees grown on private land from taxation. If agroforestry is to be encouraged, trees need to be equated with crops and made free of income or wealth tax.

FELLING AND TRANSITING OF TREES

Status and Issues:

3.65 The intention of the following Acts and Rules was to preserve and protect forests, but since no distinction was made between natural standing forests on private lands and plantations, they get in the way of farm forestry. Extensive liberalisation is required if farm forestry is to be encouraged.

3.66 According to the Rajasthan Tenancy Act, 1955, (Sections: 83-86), the felling of all trees on private land is prohibited without the permission of the Revenue Officers (Patwari, SDO or Collector, depending on the number of trees). Sec. 86 of this Act lays down heavy penalties for felling trees without permission.

3.67 [The following Rules laid down under this Act provide for licences for felling, fees, forms, etc.: Notifications: No. F.1(37) Rev.B/55 of Nov. 1, 1955; No.F.5(7) Rev/Gr.4/76/13 of May 2, 1981; No.F.6(23) Rev/Gr.IV/79/60 of Sept.2, 1986.]

3.68 Private forest growth on estates is further regulated by the Rajasthan Land Revenue Act, 1955 (Section: 94), which gives the Collector the power to levy penalties for felling without permission, etc. (See also Rule. No. F 15 (85) Rev. A/57 of 24/5/86, under the Act).

3.69 Restrictions on felling of all trees are laid down by the Rajasthan Tenancy Act, 1955 (Sec. 74-86). On government lands the restrictions are laid down in the Rajasthan Forest Act. Special Government Orders are required to fell trees even in Reserved Degraded Forests.

Recommendations:

3.70 Rules concerning the felling of trees need to be rationalized, keeping in view the modern needs. This means keeping restrictions where there is genuine forest coverage in reserved and protected forests, and liberalizing such restrictions in all other areas, especially those which are far from standing government forests. Sections 74 - 86 of the Rajasthan Tenancy Act, 1955 and Section 94 of the Rajasthan Land Revenue Act, 1955, need to be amended for this purpose.

COMMUNITY WOODLOTS

Status and Issues:

3.71 No specific Government Order has been passed for the management of forests on panchayat land, but the Forest Secretary has laid down a general Guideline for Social Forestry, which includes community woodlots. The exact rules have not been framed as yet, but management for five years by the FD and benefit sharing are included in these guidelines.

3.72 The Forest Department is exploring various arrangements with the panchayats. A draft model has been recently sent by the FD to the NWDB. The major problem, nonetheless, is that the panchayat system does not legally provide for village forest management. The Rajasthan Panchayat Act will have to be amended to provide for the following:

a) to define forestry as part of the developmental activities;

b) to rearrange panchayat finances to include afforestation;

c) to put an obligation on the panchayats to do afforestation work

d) to allow for rural credit and banking arrangements for afforestation.

3.73 Without these amendments, the sustainability of community woodlots is questionable. The present legal model creates a dependency on the FD by the panchayats: The FD plants, maintains and harvests on panchayat land on a project-work basis, without ever transferring techniques of forestry or management to the panchayat.

3.74 What is envisioned under the project is the creation of long-term, self-sustaining village woodlots. The initial seed funds from the project are intended only to meet the initial capital manpower and expertise costs. Given that under the present laws the panchayats are not obliged to use the land for forestry, nor to manage manpower or finances, there is little likelihood that the project will be self-sustaining.

Recommendations:

3.75 The following sections of the Rajasthan Panchayat Act, 1953 must be amended:

a) Section 24 of the Rajasthan Panchayat Act, 1953 needs to be amended to put an obligation on the panchayats to maintain village forests.

b) Section 64 (a) of the same Act needs to be altered to include forest plantations as crops.

c) Chapter 5 of the Act needs to be amended to: (1) allow the panchayats to take loans from banks for planting, harvesting and marketing; (2) require that the requisite amount of funds gained from sales is kept aside for reinvesting in village forestry works; and (3) rearrange the financial structure in such a way that the benefits from the village forests go to the concerned village, even though the administration is done at the panchayat level.

3.76 Revenue lands contiguous with villages, specially where afforestation has been done under the project, should be vested in the panchayats at the earliest possible by the Revenue Department. If this is not done, the legal status of such 'community woodlots' will remain nebulous and the benefit-sharing arrangement that the FD has on regular panchayat lands will not apply to these village woodlots. As such, one of the objectives of the project will be defeated.

STRIP PLANTATIONS

Observations:

3.77 Road-sides and railway strips have been declared 'protected forest' in Rajasthan (Revenue Dept. Notification No.F.3(16) Rev.8/76, dated Aug/5/1978). Giving usufruct rights in such protected areas is legally problematic, but not impossible. No usufruct rights have been officially given so far. Such rights can be given on strips without infringing upon the Forest Conservation Act, 1980 since they are not protected areas.

Recommendations:

3.83 If there is indeed a willingness on the part of the FD, then the following steps are required to execute a workable legal model for tree tenure schemes:

a) The Revenue Department must identify the available land, not merely on record but by actual verification of the records.

b) The beneficiaries, who have been identified by the Rural Development Department for other projects or schemes, can be allotted tree-tenures by the Revenue Department.

c) The allotment must be done on revenue lands, not on common village lands on which people already have settled or have customary rights.

d) The Revenue Department must exempt the tree-tenure holders from the provisions of the Rajasthan Land Tax Act, the Rajasthan Tenancy Act and the Rajasthan Land Revenue Act, with reference to the relevant sections of these Acts which apply to social forestry. In brief, the tree-tenure holders should not be required to register. A certificate of registration should be issued to them by the Department. They should not be taxed for the trees. These exemptions and administrative steps can be arranged through a departmental notification.

e) After the above five steps have been completed, the Revenue Department should inform the Forest Department about the allottees and request the Forest Department to execute the tree-tenure scheme.

f) The Forest Department should plant only those species of tree which are indigenous and which have long term as well as short-term benefits to the lease-holder. The preferences of the lease-holder must also be considered.

UTTAR PRADESH

RELEVANT LAWS

3.84 The following laws, directly or indirectly, regulate forestry in Uttar Pradesh. The relevant sections of these laws will have to be made consistent with the objectives of social forestry.

The U.P. Panchayat Raj Act, 1947.
The Indian Forest (U.P. Amendment) Act, 1951 (as amended in 1956).
Imposition of Ceiling on Land Holding Act, 1960. (Amended in 1976).
Land Acquisition (U.P. Amendment) Act, 1954.
Land Revenue Act, 1901.
Land Acquisition (Rehabilitation of Refugees) Act, 1978.
Land Reforms (Evacue Land) Act, 1957.
Land Reforms (Supplementary) Act, 1952.
Land Tenure (Regulation of Transfer) Act, 1952.
Soil Conservation Act, 1954.
Urban Areas Zamindari Abolition and Land Reforms Act, 1957.
Reforms Act, 1957.
Zamindari Abolition and Land Reforms Act, 1950 (as amended in 1951 by U.P. Land Laws (Amendment) Act, 1971 & 1974).

LAND AVAILABILITY

Status and Issues:

3.85 Availability of land for social forestry purposes is very limited, especially in Eastern U.P. Under different Government Orders, the same or similar wastelands are to be utilized for NREP, DRDA, IRDP and other rural development schemes. The Forest Department scheme gets a lower priority.

3.86 As a consequence of the Land Reforms and Zamindari Abolition Acts, all revenue wastelands close to villages have been vested in the panchayats as gram-samaj lands. All social forestry schemes are, therefore, to be carried out on gram samaj lands.

3.87 The only other Forest Department lands available on which social forestry can be carried out are the degraded forest lands and protected forest lands (along roadsides and railway lines). However, these come under the central purview of the Forest Conservation Act if tree or land tenures are to be given. Strip plantations in U.P. have been declared as protected forests.

3.88 Competing claims for the limited gram samaj land in Eastern U.P. have brought about extensive litigation for land entitlements and use. The implementation of the project will be retarded while such litigation is going on.

Recommendations:

3.89 The tree tenure scheme on gram-samaj land is not recommended because such tenures are in contravention to the Panchayat Act, which directs panchayats to use the gram-samaj land for the common good. On such lands, only community woodlots are legally feasible.

TREE TENURE

Status and Issues:

3.90 There is a Government Order to give tree tenures on gram samaj lands. Census records have been matched with land survey records and tree pattas have been "given" (de jure) to many beneficiaries. But de facto, this amounts to nothing because the census records do not reflect the actual beneficiaries and the survey records do not reveal the actual use or occupancy of land. As presently administered (which starts the process at the top and works down), the tree tenure scheme is, therefore, a failure.

3.91 [Tree tenures in protected and reserve forests have not been given. In strip plantations (protected forests), although the rights have not been given, people are benefiting from the forest produce (illegally). In reserved forests there are recorded concessions for usufruct rights (some areas).]

Recommendations:

3.92 To make the tree tenure scheme successful, it will have to be operated the other way round, from ground legal to the Forest Department. That is, the land will first have to be identified, the beneficiaries located and then the tree tenures given. The legal criteria for allotments will have to be strictly defined: The only tree tenures to be recognized are those for which the deed papers are actually in the hands of the beneficiaries.

REHABILITATION OF DEGRADED FORESTS

Observations:

3.93 In reserved forest areas, the Forest Department has the power to harvest and sell timber and minor forest products (MFP): The Centre's permission is not required for this purpose. If social forestry is to be done in degraded reserved forests, a clear Government Order is required which will specify the nature and amount of benefits to be given to villagers in harvesting.

3.94 The existing government letter, which says that degraded forests are to be treated on a par with gram samaj land, will not do because the community woodlot scheme is different: There the idea is to hand over the afforested trees to the panchayat; afforested forest lands cannot be handed over to the villagers, unless the Centre changes its policy. Social forestry on degraded forest lands will, therefore, require a different legal strategy and will have to be dealt through separate orders. (No legislation is required.)

COMMUNITY WOODLOTS

Status and Issues:

3.95 Under the existing legal arrangements, community woodlots are a one time affair. The trees will be felled and sold on maturity and the outcome shared by the villagers and the Forest Department. There is no guarantee that any sustainable regeneration will take place.

3.96 To make this a sustainable enterprise, the U.P. Panchayat Act will have to be amended to rearrange the finances, obligations and management. The benefit sharing rule between panchayats and the FD (20:80) is arbitrary, giving 80 per cent of the gross sales to the FD to recover its costs. This high percentage is required only if the plantation is conceived as a one time affair. In a welfare activity there is no need for the FD to recover costs since its finances are coming from a donor agency. If costs are to be recovered, it should be done over a minimum of 30 years. This will generate the FD's and panchayats' interest in the regeneration of plantations.

Recommendations:

3.97 To make community woodlots self sustaining, the U.P. Panchayat Act, 1947, should be amended as follows:

a) In Section 28A(1), add a sub-section stating:

"The Bhumi Prabandhak Samiti (Gaon Sabha) shall protect and supervise the village woodlot belonging to it or vested in it under Sec. 117 of the U.P. Zamindari Abolition and Land Reforms Act, 1950, or under any other provisions of that Act. Such village woodlots shall not be used for any prupose other than Forestry."

b) In Sec. 15(1), add: "establishment of village woodlots;"

c) In Sec. 15(2), add: "maintenance and control of village forests all over U.P."

d) In Sec. 34(1), add: "And the funds realized from the sale or harvest of village woodlots or any coupe thereof shall vest in the Gaon Sabha."

FARM FORESTRY

Observations:

3.98 To encourage farm forestry and to allow for choices in specie selection, the "royalty" restriction and the transit rules under the Forest Act will have to be amended. A rational scheme will have to be evolved to achieve the purposes of both the protection of trees in natural forests and the felling of trees in farm forestry. Advancement of farm forestry in U.P. also requires amendments to the Land Ceiling Act, the Land Reforms Act, and the Land Development Act.

NON-GOVERNMENTAL ORGANIZATIONS

Observations:

3.99 The NGOs, such as Yuvak Mandals, should be used for managerial, conscience-raising, and facilitative works only. Land tenure, tree tenure, or contracts for benefiting from the forestry fund should not be made out in the names of the NGOs, especially where gram samaj lands are involved. Under the Panchayat Act, these lands are vested in the Gaon Sahba and the Act directs the Sabha to use such lands for the common good. The voluntary agencies, after all, are meant to work for the social good (in this case the good of the poor villagers) and not for their own benefit.

3.100 The government should, therefore, give grants to NGOs to work on such lands. The benefits should be placed at the disposal of the Gaon Sabha who, after reinvesting the requisite amount for the regeneration of village forests, can use the rest of the funds for general development purposes. As it is, numerous panchayats have gone to court against the Yuvak Mandals and other NGOs, whom they perceive to be taking away what genuinely belongs to the whole village. Such litigation is going to make impossible the execution of any forestry schemes on gram samaj lands.

PART III: ANNEX 4

MONITORING AND EVALUATION

Dorothy Anderson, Social Forestry Advisor
(Monitoring and Evaluation)
USAID, New Delhi

INTRODUCTION

4.01 The National Social Forestry Project calls for each State's Forest Department "to develop strong monitoring and evaluation capabilities...for cost effective approaches to social forestry." Guidance for monitoring and evaluation (M&E) activities comes from the publication An Operational Guide to the Monitoring and Evaluation of Social Forestry in India. Effective implementation of the Guide varies among each of the four Forest Departments. At least four factors can be identified which appear to influence effective implementation:

1. Organizational structure of the M&E unit;

2. Ability of M&E staff to collect, analyze, and report on social forestry findings;

3. Level of training and expertise of the M&E staff with computer hardware and software;

4. Appropriateness of proformas outlined in the Guide.

ORGANIZATIONAL STRUCTURE

4.02 The success of a program is often linked to organizational lines of authority and reporting. In three of the States the head of the M&E Unit holds the rank of Conservator of Forests (CF). For Rajasthan and Gujarat the rank of CF seems satisfactory for the functioning of the unit. In Uttar Pradesh, the rank of CF presents some constraints to the functioning of the unit which seem to affect the timeliness of responses from field level CFs to data requested by the M&E unit. In Himachal Pradesh, the Director of M&E holds the rank of Additional Chief Conservator of Forests (ACCF).

4.03 All of the M&E units have a field staff and an office staff. In each of the four Forest Departments, the organizational structure differs between the headquarters office and the field and the make-up of the field staff is highly variable from State to State. The office staffs in each State are structured similarly and function similarly. Rajasthan has the most highly evolved field staff organization, followed closely by Gujarat. Both of these states have field level DCF/DFOs with social forestry responsibilities. And, field level data are collected quickly and efficiently by the DCF/DFOs and their crews. In U.P. and Himachal Pradesh, field data collection is largely the responsibility of the range officers. Because they must rely on the help of field level DCF/DFOs and CFs who outrank them, data collection is sometimes sporadic and not always timely.

4.04 Office level staff generally include a statistical officer and/or one to two statistical clerks, and one to two computer operators. Sometimes the computer operators and statistical responsible for collating data and carrying out data analysis as requested by the Director of the M&E unit.

DATA COLLECTION, ANALYSIS AND REPORTING

4.05 At least three factors weight heavily in data analysis and ultimately data reporting:

a) the M&E Director's skill in data analysis and report writing;

b) the Director's knowledge and understanding of the unit's computer hardware and software; and

c) the Director's ability to translate information needs into a form the computer can read and analyze.

4.06 With respect to the second and third factors, the M&E unit in Rajasthan, when compared to the other three States, has made the best use of their computers to build a management information, data analysis and reporting system for all of their M&E activities.

4.07 A major activity of the M&E units is to conduct periodic studies of farm forestry and community woodlot programs and to monitor the overall performance of nurseries and tree plantations. At present, data have been collected for the following social forestry activities according to the proformas specified in the Guide:

ANNEX 4: TABLE 1
STUDIES CONDUCTED ON SOCIAL FORESTRY ACTIVITIES

STATE	STUDY CONDUCTED	YEAR(s) CONDUCTED
GUJARAT	Farm Forestry	1984-85, 1986
	Village Woodlots	1984-85, 1986
	Stoves, Crematoria	1987
	Malki Lands Plantation	1987
UTTAR PRADESH	Farm Forestry	1983-84, 1987
	Village Woodlots	1987
	Seedling Pricing	
HIMACHAL PRADESH	Farm Forestry	1986-87
	RDF Plantations	1986-87
	Poor/Landless Tree Tenure	1986-87
	Forest Products Pricing	1986-87
RAJASTHAN	Farm Forestry	1986
	Village Woodlots	1986
	Afforestation Potential	1985 ongoing
	Plantation Studies 1/	1983-86
	Aerial Seeding Studies	1986
	NSFP Plantation Studies 2/	1985-86, 86-87
	NGO/VA Plantation Studies 3/	

1/ Evaluation of all plantations raised under all schemes/programs nine evaluations in total)
2/ Evaluation of NSFP plantations only (23 evaluations in total).
3/ Evaluation of NGO/VA plantations only (3 evaluations in total).

4.08 These surveys are published documents. They provide an independent assessment of project activities, including survival by species. Dissemination and discussion of study findings should lead to better species selection and improvements in project approaches.

4.09 Although a great deal of data has been collected and analysed, monitoring and evaluation data have not been gathered, analysed, and disseminated as rapidly as desired. The major reasons for this slowness were that the M&E units were not adequately prepared at the field level to collect data and transmit it to the office staff and, once data were collected and transmitted, the office staff was not prepared to analyze them.

4.10 The latter can largely be traced to the office staff's acquisition of and ability to use the computer hardware and software. It has only been since April, 1987 that each of the M&E units has received the computer equipment specified under the National Social Forestry Project. It has only been since September, 1987 that the software specially designed for social forestry M&E activities has been operational. For these reasons, data collected on farm forestry and village woodlots during late 1986 and early 1987 have only recently been prepared and distributed.

4.11 Over the course of the project, financial monitoring of social forestry activities has proceeded satisfactorily.

TRAINING OF M&E STAFF

4.12 Training of M&E field and office staff varies from location to location. Training at the field level generally entails learning how to administer a survey, how to tabulate field data, and how to prepare data for use by the headquarters office. Field level staff have had little to no training in extension activities they could perform, such as preparing and implementing village level microplans for community forestry projects.

4.13 Training of office staff has focused almost exclusively on computer hardware and software applications for social forestry. All of the M&E units have expressed a desire and a need for additional computer software training. All of the M&E staff who were trained by the Computer Maintenance Corporation (CMC) in the use of computers and in the use of the software package specifically designed for monitoring social forestry activities, rated the CMC training as "marginal to not at all useful."

4.14 Office level staff, especially the Directors of the M&E units, could benefit from training that would teach them how to develop management information systems and how to prepare findings for the different Forest Department functions and levels. Currently, data are rarely being used at the department level in planning and policy decisions. With the exception of Rajasthan, data are written up and distributed to all levels with no attention given to the best form the data should be in to maximize its usefulness at the various levels.

GUIDEBOOK PROFORMAS

4.15 The operational Guide that the State Forestry Departments are mandated to follow in monitoring social forestry activities needs to be reviewed. Many of the proformas outlined in the Guide were developed by the National Wasteland Development Board (NWDB) for use at the central government level. Several of the proformas (e.g., Quarterly Nursery Return, Annual Plantation Return, District Summary of Plantation Returns, and the District/State GOI Return) ask for data that the Forest Departments do not have access to. For this reason, Forest Departments have been slow in gathering data and slow in submitting the data outlined in these proformas for NWDB.

RECOMMENDATIONS

Organizational Structure

4.16 In part, gathering field data has been slow because the organizational authority to ensure cooperation of field officers is lacking. This is especially true in U.P. and Himachal Pradesh. Only in Rajasthan does the M&E Director have technical supervisory authority over field level DCFs with social forestry administrative line in authority between the M&E headquarters office and the field CFs or DCFs. Data and information contained in the monitoring reports is useful for policy and planning activities only if it is timely. Direct or indirect accountability of field officers with M&E responsibilites to the M&E Director should be established so that field data, and therefore monitoring reports, are completed on time.

Data Collection and Staff Training

4.17 In all cases field level staff expressed an interest for additional training in data collection methods and using data to develop village level microplans. USAID and IDA should work with the four States to identify a qualified individual(s) to develop a series of workshops, seminars, and exchange visits to build skills in developing workable community woodlot plans.

4.18 Office staff assigned to the M&E units need better computer skills for processing and analyzing social forestry data. All of the computer clerks and statistical clerks interviewed expressed a keen interest in receiving additional computer training. Moreover, the Directors of M&E units also said they would like training to become more computer literate and to learn about the potential uses of the software they have and of software they might purchase to further upgrade M&E activities. USAID and IDA should work with the four States to develop an ongoing computer software training program. The M&E units should look for ways to establish a computer users support group among their staffs and other staffs within the Forest Department and between the various State Forest Departments.

4.19 Computer software specially designed for M&E activities has not met the desired expectations. These software should be evaluated and changes made where necessary. In addition, new software for developing management information systems that will also allow for the integration of geographic information need to be developed and tested for eventual use by the M&E units. USAID and IDA should identify and contract with individuals and/or institutions with computer software development skills to upgrade the analytic capacity of the social forestry staffs.

Guidebook Proformas

4.20 The operational Guide for monitoring and evaluating social forestry activities must be reassessed and revised. Whenever data are called for that are not within the purview of the Forest Department to collect, those data should be deleted from the proformas. The States, USAID, and NWDB should form a committee to evaluate proformas in the Guide.

Research Projects

4.21 In all four States, research studies called for in the National Social Forestry Project have been slow in getting started or have yet to be started at all. Often the reason for this is the lack of ability on the part of the M&E staffs to develop research, rather than simply because of the already heavy workload that exists for M&E units. USAID and IDA should look for ways, such as collaborative arrangements with outside individuals, agencies, or institutions either in India or abroad, to assist the State Forest Departments in conducting required research projects.

PART III: ANNEX 5

NON-GOVERNMENTAL ORGANIZATIONS

John Grant, Evaluation Coordinator
Sharon Holt, Office of Evaluation
USAID, New Delhi

INTRODUCTION

5.01 Non-governmental organizations (NGOs) are scattered in varying concentrations across the four project States. Gujarat, with its strong Gandhian tradition, boasts the largest number of NGOs, followed closely by Rajasthan. Himachal Pradesh and Uttar Pradesh house fewer NGOs in project districts although they have numerous government sponsored voluntary organizations such as Yuvak and Mahila Mandals and in Himachal Pradesh, Cooperative Forest Societies.

5.02 In recent years many NGOs have broadened their scope of activities to include social forestry. Several government agencies, including the National Wastelands Development Board (NWDB) and the Department of Rural Development (DRD), are providing substantial funding support to NGOs for social forestry. The State Forest Departments and the international donor supported National Social Forestry Project, however, offer little funding to these groups for social forestry and NGO participation in the project has been minimal.

TYPES OF NGOs

5.03 NGOs vary tremedously in size and technical capability and offer different potentials for project involvement and enhancement. They can be classified into four categories (which are described in great detail in William Stewart's paper, Role of Non-Governmental Organizations for Social Forestry Extension: Approaches and Comparative Advantages, a paper for IIMA-FAO Forestry Extension Conference, Ahmedabad, January 1987.):

1) Traditional grassroot NGOs (such as Ubeshwar Vikas Mandal in Udaipur) excel in social mobilization and participation, but possess limited expertise in forestry and management.

2) Professionally skilled NGOs (such as Manavodaya in U.P.), are staffed with technically skilled or university educated individuals and generally play an intermediary role to assist grassroots NGOs and organize opportunities for dialogue between different groups interested in social forestry. Their field based operations, if they exist at all, are usually small.

3) Large, integrated NGOs (such as Bharatiya Agro Industries Foundation, BAIF, Aga Khan Rural Support Program, and Seva Mandir) usually have a technically qualified staff and considerable physical and financial resources.

4) Local bodies (such as Yuvak and Mahila Mandals, Cooperative Forest Societies and Van Panchayats) are village and sub-village bodies that work directly with the people in their community and therefore have perhaps the greatest potential to promote community involvement and women's participation.

FUNDING SOURCES FOR NGOs

5.04 The principal funding sources for NGOs involved with social forestry are the National Wastelands Development Board (NWDB) (60crs), and the Department of Rural Development (DRD) with its the National Rural Employment Program (NREP) (100crs), and its Rural Labor Employment Guarantee Program (RLEGP) (100crs). In addition, there are bilateral and World Bank loans (80 crs), as well as State funds (120 crs.). (All figures are for 1986.)

5.05 The NWDB funds NGOs to implement its own specific tree planting models. The DRD gives grants to the NGOs for nursery and tree planting activities from its NREP, RLEGP, and DPAP schemes. Most of these grants are made by the District Level Rural Development Corporations (DRDAs); however, DRD also awards grants at the State level for NGO social forestry work. In Gujarat, the DRD has made State level grants to the Aga Khan Rural Support Program, BAIF, and others with impressive results.

5.06 International donors have also supported NGO forestry activities. The Ford Foundation, for example, supports the Nehru Foundation through its VIKSAT program in Gujarat which serves a coordinating, facilitating, and training role for grassroots organizations.

CURRENT NGO INVOLVEMENT IN THE NATIONAL SOCIAL FORESTRY PROJECT

5.07 In contrast to other government social forestry programs, the National Social Forestry Project does not promote NGO involvement through funding incentives either directly to NGOs or through the State Forest Departments. Consequently, most linkages between the FDs and the NGOs are ad hoc and limited to:

Kisan Nurseries

5.08 Although the structure of the kisan (farmer) nursery program directs all payments to farmers, in a number of cases NGOs have acted as intermediaries between the FDs and farmers. They assist in seedling transportation, public relations and information, technical assistance, and preparing necessary documentation (Gujarat, Rajasthan).

Seedlings for Tree Plantations

5.09 Both local bodies and larger NGOs have taken seedlings from the Forest Department and started their own nurseries. Yuvak Mandals in U.P., Mahila Mandals in H.P., and grassroot NGOs in Gujarat and Rajasthan have started numerous plantations across the States with technical input from the FDs.

Forest Department Technical Assistance

5.10 The evaluation team learned of only a few cases where the FD had provided technical assistance to NGOs working with the local communities. Even when NGOs are set up by the government and designed to have substantial FD interaction, such as the Cooperative Forest Societies in H.P., collaboration between the FDs and nongovernmental groups has been minimal.

Community Organization

5.11 In Rajasthan, NGOs in the Udaipur area have been involved with setting up community woodlots and tree protection committees under the project.

CONSTRAINTS ON NGO PARTICIPATION

The limited participation by NGOs in the NSFP results from the following:

Project Design and Organization

5.12 Active NGO involvement in the NSFP is constrained by the project's design document which neither specifies provisions for NGO financial support nor presents any targets for NGO participation. In contrast, the other GOI programs with mechanisms and targets for involving NGOs boast strong participation. Therefore, despite the lipservice given to NGOs in the project papers, NGO involvement has been marginal.

Inadequate Coordination between the Forest Departments and Other Government Agencies Supporting NGO Social Forestry Activities

5.13 Information sharing and coordination between the Forest Department and other government agencies supporting NGOs in social forestry are lacking. The NWDB grants program, for example, purposely does not involve the State Forest Departments in its appraisal of NGO project proposals or in monitoring NGO forestry activities. Further, until recently the State FDs were not informed by the NWDB of NGO grant recipients.

5.14 The NWBD's policy on NGO grants prevents the State FDs from carrying out their nodal roles as the States' Social Forestry Coordinators and it makes it virtually impossible to provide effective technical assistance and support to NWDB financed forestry initiatives. The DRD also does not coordinate or share information with the State FDs. As a result, many NGOs fail to receive technical assistance in forestry even when it is greatly needed since the DRD does not possess forestry expertise. If the FDs were privy to DRD grant recipients, at least there would be the potential for technical assistance in forestry.

Inadequate Mechanisms for Coordination and Information Sharing Between NGOs and the Forest Departments

5.15 The Forest Departments could interact constructively with NGOs in the NSFP if opportunities existed for NGOs and the Forestry Departments to meet and exchange information on a regular basis at State and local levels. At present the only meetings held between the organizations have been ad hoc. For example, in Gujarat the FD and the NGOs met together only twice in two years even though the NGOs appreciated the meetings and found them useful for discussing issues and learning of government programs. In U.P., BAIF sponsored a conference attended by the U.P. Forest Department, university researchers, and both NGOs and FD officials said they benefitted from the meetings. But despite the recognized benefits felt by both sides, no mechanism for regular dialogue between the two exists.

5.16 The same failure to communicate exists at the local level with a few important exceptions. Himachel Pradesh is making significant in-roads towards reaching rural women through the village level Mahila Mandals by having women Forest Guards meet regularly with these groups. Notably, it is the only State that possesses both a separate Community Woodlot (self-help) component that targets local bodies for plantation and that has effectively included women in the project. But with the exception of Forest Department's planting efforts with Mahila Mandals in H.P., a few Yuvak Mandals and farmers' cooperatives in U.P., and farmers' cooperatives and a few grassroots NGOs in Rajasthan, the FDs have only a vague understanding of NGO forestry fieldwork. Similarly, NGOs' understanding of Forest Deparment programs is incomplete.

Attitudes of Forest Department Officials Towards NGOs

5.17 The Forest Department's critical and suspicious attitudes towards NGOs constrain increased NGO involvement in the NSFP. These negative perceptions stem from:

1) NGO Criticism of the Forest Department: Forestry officials are clearly sensitive to NGO criticism -- such as negligible "people's participation" -- and feel that the NGO rhetoric is not commensurate with the NGO performance in forestry. FDs challenge the NGOs to demonstrate better models or solutions that produce sizable plantations. Many forestry officials believe that while they are working arduously at planting trees, NGOs concentrate on cultivating publicity and benefits from international donors and other government agencies with whom they compete for resources.

2) Competition for Funds: Competition for social forestry funds also strains FD/NGO relations. When the GOI decided to increase its expenditure on social forestry several years ago, much of the additional funding went to other agencies, such as the Rural Development Department. Separate funding channels to NGOs were created through the NWDB's central NGO grants program which bypasses the FDs altogether. As a result, FD officials seek to protect what they perceive as the FD's rightful domain, and they become defensive at any suggestion that the NGOs - or other government agencies - can carry out social forestry activities as well as or better than the FDs.

3) Forest Department's Perception of NGO Capabilities: FD's skepticism of NGO capabilities also constrains NGO/FD collaboration. The FDs identify four major NGO deficiencies that prevent effective NGO involvement:

a) lack of technical expertise in forestry;
b) inability to adequately protect tree plantations;
c) limited access to land, especially public and common land;
d) limited size and capacity that prevents NGOs from playing anything other than a minor role in social forestry.

5.18 Forestry officials also acknowledge that the NGOs have some strengths such as motivated staffs that muster strong community involvement. One senior forester in Gujarat admitted that NGOs "have their finger on the pulse of the people." Also many officials recognize that NGOs could play a useful promotional and educational role. But they also assert that the actual business of tree planting should be left to the Forest Departments.

NGO Attitudes Towards the Forest Departments

5.19 NGOs hold ambivalent attitudes towards the Forest Departments which also inhibit collaboration. While on the one hand they recognize that the FDs' formitable size, resources - technical, property, and financial - and official mandate insure their dominant role in social forestry, NGOs remain critical of the FDs' dedication and capacity to promote people's participation or to adopt suitable social forestry models. Their three major criticisms are:

1) Insufficient People's Participation: Many NGOs question the FDs' capability to effectively promote people's participation in reforestation, given the FDs' non-social policing history, their basic structures and orientation, and their staff's attitudes. As one NGO official bluntly stated, "Where is the 'social' in social forestry? How do the FDs define social forestry other than planting on non-Forest Department lands?"

2) Accusations of Corruption: In a few cases, NGOs have accused the FDs of corruption and of actually accelerating deforestation by making inappropriate concessions to industry.

3) Land Access: Several NGOs in Gujarat are frustrated by their inability to get access to FD lands for planting activities. VIKSAT's application for leases of FD lands have been pending for more than two years. Others maintain they are operating at less than half of their capacity in social forestry because of lack of access to land.

5.20 Some larger NGOs are pragmatic in their dealings with the government and have been skillful in maintaining fairly good relations with the FDs, but smaller more outspoken NGOs have been less effective. There is some hope for increased cooperation and understanding as many NGOs are hiring retired forest officers who contribute to improved relations. Most NGOs want better collaboration with the FDs so they can benefit from technical assistance and possibly access to FD controlled lands.

NGO Size, Coverage, and Technical Capability

5.21 In Himachal Pradesh, Uttar Pradesh, and certain districts of Rajasthan and Gujarat, the limited number, size, and technical capability of NGOs severely inhibit the potential for NGO involvement in the National Social Forestry Project.

1) Size and Distribution: Small NGOs and village level groups are dispersed across project States and their limited coverage and scattered distribution constrain their potential involvement. Most FDs have neither the time nor the training to interact substantively with these groups. In order to effectively involve these NGOs, a decentralized mechanism for coordination may be needed. At the same time, there are several "Mega NGOs" (e.g., Seva Mandir in Rajathan) for whom size is no constraint to major involvement in the NSFP.

2) Limited Technical Capabilities: Their limited technical capability also constrains NGO involvement in tree planting activities, particularly for the smaller ones. Many NGOs started social forestry recently and have not been able to hire qualified technical staff, in part because non-Forest Department qualified Foresters are difficult to find and only a few NGOs have been successful in hiring retired State Foresters. The limited technical capability of many NGOs argues for increased NGO/Forest Department collaboration, with NGOs playing a major role in education, promotion and organization and the Forest Department providing the required technical inputs.

RECOMMENDATIONS

5.22 There should be a close partnership between all State Forest Departments and NGOs, although this relationship should vary in the four project States. Rajasthan and Gujarat should focus on their numerous traditional and professional NGOs, while U.P. and HimachAl Pradesh should give greater attention to the more prevalent village level organizations. This cooperation would be mutually beneficial as NGOs, which excel in community organization, promotion and education but lack technical expertise in forestry, join the FDs which have impressive forestry skills but little experience with community participation.

5.23 Unfortunately, the constraints noted above seriously limit the potential for active involvement of the NGOs in the NSFP during the remaining two to three years of the project. But even within the existing constraints there are some steps that can be taken to increase the involvement of NGOs in the NSFP which could facilitate achieving project objectives. These recommendations will require extensive discussions with the Forest Department and NGOs to determine their practicality and the most feasible means to implement them.

Develop Mechanisms for NGO/FD Coordination at State and Local Levels

5.24 In order to improve communication, a central NGO/Forest Department coordinating committee should be established at the State and local levels. Representatives from the DRD and National Wastelands Development Board should also be included. A State committee should meet semi-annually or quarterly to discuss NGO and Forest Department programs, resolve issues, and promote collaboration.

Survey NGO Social Forestry Activities

5.25 Given the inadequate information on NGOs involved in social forestry in all project States, a NGO survey should be commissioned, to be carried out on a district by district basis. The survey could be used to determine the documentation and studies proposed by these organizations, as well as their interests and needs in social forestry. The survey findings should be presented to the State coordinating committees and serve as a basis for exploring options for increased NGO/Forest Department collaboration.

Designate Forest Department Liaison Officials for NGOs at the State and District Levels

5.26 A senior Forester should be designated the official liaison officer with the NGOs at the State level (on a part time basis). He/she should keep abreast of NGO activities and should serve as an ongoing contact for the NGOs during the periods between the coordinating committee meetings. Similar liaison officers should be designated in the districts selected for collaborative efforts with the NGOs. These Forest Department liaison officers should be provided with opportunities to visit NGO social forestry projects both inside and outside the State.

Increase Information Sharing Between Centrally Sponsored GOI Schemes to Support NGOs and the State Forest Departments

5.27 The Forest Department should be provided with regular information about support to NGOs for social forestry from the National Wastelands Development Board's grants program and other central schemes. The NWDB should develop a system for regular NGO information sharing with the State Forest Departments. The FDs should also be invited to participate in NWDB monitoring visits to NGOs so that the State foresters can keep abreast NGO activites.

Increase NGO Involvement in Select Forest Department Programs

5.28 The State FDs and NGOs could benefit from collaboration in the following programs:

1) Kisan Nurseries: FDs could expand their kisan nursery programs and possibly accelerate privatization by establishing contractual arrangements with some of the larger, more competent NGOs such as Aga Khan Foundation, BAIF, and Seva Mandir. NGOs could then assume responsibility for setting up select kisan nurseries with women and marginal farmers, providing technical assistance, and ensuring that seedlings are planted and distributed. The NGOs would be paid a fee to help cover their administrative costs. The Forest Departments could monitor these programs to its satisfaction and assist with technical training as appropriate.

2) Seedling Distribution: Technically competent NGOs should expand their seedling distribution and follow-up extension activities. Forest Departments should encourage NGOs to assistance in distributing seedlings and plan well ahead to identify the kinds of trees which will be needed from the nurseries. Forest Departments could develop separate targets for seedling distribution through the NGOs. The NGO/FD agreements should include arrangements for the NGOs to provide basic forestry extension assistance to farmers. In some cases the Forest Departments might wish to provide the NGO staff with supplementary technical training at the nurseries.

3) Community Woodlots: NGOs could assist the FDs in developing more effective models for community involvement in the planning, maintenance, and protection of woodlots. NGO experiments with community participation should be documented. When NGOs claim they have adopted effective approaches to community involvement, the Forest Department's research unit should participate in the program's evaluation to identify any lessons learned. More importantly, Forest Departments should collaborate with NGOs to establish pilot woodlots in select communities where NGOs have a strong rapport with the community which could be used to help mobilize the local population.

4) Collaboration in Training: Forest Departments and NGOs should collaborate in training programs for NGOs. VIKSAT in Gujarat, Seva Mandir in Udaipur, and the Society for the Promotion of Wastelands Development in Delhi have been or currently are organizing training courses in social forestry. This training could be technically strengthened by the participation of forestry staff as instructors. Training courses jointly organized by Forest Departments and NGOs could also serve to provide in-service training to forestry officers, especially in social and community development.

5) Collaboration in Research: Forest Departments should collaborate with NGOs in forestry research activities. NGO research capabilities vary considerably but several NGOs are researching topics relevant to Forest Departments. Large NGOs like BAIF are conducting sophisticated technical research while NGOs like St. Xavier's Behavioral Centre, Manavodaya, and the J. Patel Agro Forestry Center are carrying out more modest controlled experiments and studies. By working with the NGOs to identify research topics, and by providing modest grants to support their research, the Forest Department could further its own work in social forestry.

Promote the Involvement of Women through NGOs

5.29 The NGOs and especially village level organizations offer great potential as mechanisms for involving women in the project. So far only Himachal Pradesh has been successful in substantively getting women involved in social forestry. They have achieved this goal not only by hiring Lady Forest Guards but also by targeting village level women's organizations, Mahila Mandals, to do plantations. These are funded under a special Community Woodlot (self-help) component that is aimed at local groups.

5.30 This sort of activity should be expanded into all project States: in U.P., the FD could target newly established Mahila Mandals and women's NGOs if there are any in the plains districts, and in Gujarat and Rajasthan, the FDs could target women's NGOs (of which there are many). A women's focus should include not only plantation and possibly nursery activities, but should also facilitate women's input into the FDs' public planting initiatives.

Forest Cooperatives and Community Management

5.31 In areas where there is a history of community management in forestry, the FDs should assess the potential for reintroducing community management under an improved management model. This recommendation applies specifically to Kangra District in Himachal Pradesh where there are existing, although nonregistered, forest cooperatives.

IMPLEMENTATION APPROACHES

5.32 Obviously the FDs and NGOs could not undertake all these recommendations at once. Moreover, such a comprehensive approach would probably not be wise as it could possibly increase misunderstanding and criticism. Rather, most of these recommendations should be introduced under pilot projects. Certain districts with high concentrations of NGOs interested in social forestry should be selected first to test programs of collaboration and cooperation. If successful, they could be expanded, or if difficulties are encountered, modifications could easily be made.

5.33 But a catalyst is necessary to get the process moving. Consequently, we recommend that surveys should be undertaken in all States to identify the NGOs working in social forestry and possible areas for NGOs participation in the project. Workshops should then be set up between the NGOs and State FDs for the fall of 1989 so that they can discuss these recommendations and possibly devise better alternatives for cooperation.

PART III: ANNEX 6

PUBLIC FORESTRY BENEFITS, MANAGEMENT AND PLANNING

Augusta Molnar, Social Anthropologist
Consultant
J. Gabriel Campbell, Socio-Forestry Advisor
USAID, New Delhi

INTRODUCTION

6.01 Socio-economic benefits and equitable distribution of produce to all sectors of the population have been found to be a function of the technical models used as well as of the management plan and distribution system. The midterm review has recommended a two-pronged approach to management of public lands, both communal and government. For one part of this strategy, the new technologies proposed in this midterm review are designed to maximize socio-economic benefits and positive environmental effects, even in plantations that are not established with active community management. For the other part, a pilot approach is to be implemented in each of the four States that will test alternative approaches to community planning and management for a long-term, sustainable system.

PRESENT BENEFITS UNDER THE PROJECT

6.02 The benefits from plantations on community and other public lands appear to be considerable. In rehabilitated forest areas, plantations and adjacent protected areas are beginning to generate sizable quantities of grass, thinnings, fallen wood and minor forest produce of value to the surrounding communities. The rehabilitation of degraded forests (RDF) and community plantations in arid regions have focused on short-rotation fuelwood species that will generate large quantities of fuelwood (and often fodder) for local needs. Community plantations include more multi-purpose species in sites with relatively better soil quality. Villagers are harvesting grass regularly and plan to harvest valuable tree fodder and fruits in addition to fuelwood and small timber. The information flowing from the project does not so far provide a solid set of figures on the quantity of these products for the States as a whole. It is possible, however, to estimate the returns to the local population on the basis of social forestry experience in the States to date.

6.03 Considerable attention was paid in the initial project documents to the expected benefit distribution from the various components in each State subproject. Calculations were made of the relative returns from public planting models to the Forest Department, to the panchayat, and to village users of the land under plantation, based upon the species planted, the expected harvesting and management regimes to be applied, and the agreed-upon system of distribution.

6.04 In the case of community woodlots, distribution was to be based on a community management plan drawn up in mutual agreement between the FD and the panchayat. In the case of other public lands, distribution was calculated on the basis of State government orders, which specify the local population's rights to produce, and also on the FD's projected harvesting plan.

6.05 The following section compares the benefits specified in the project documents for private plantations with the actual benefits that appear to be accruing. Both of these are then compared with the benefits that can be expected from the new technological models being proposed.

ANTICIPATED AND ACTUAL BENEFITS

6.06 Because of the great range of variables in the physical sites -- climate, rainfall, soil quality, altitude, and adjacent forest resources -- there is also great variation in the models being used in each State. The tables found at the end of this Annex are based on an amalgamation of two types of models, those for semi-arid/arid areas with degraded lands and those for more fertile lands in areas of better rainfall.

6.07 In the project design, the assumption was made that community woodlots would employ technical models to meet the diverse needs of the surrounding community and the panchayat for fuel, fodder, fruits, grasses, and timber for both local use and cash income to the panchayat. Other public forest plantations (strips, RDFs) were intended to supply subsistence products and some concessionally-sold products for local consumption, as well as to meet urban and commercial needs for timber and fuelwood.

6.08 Government orders regarding the distribution of produce vary from one State to another - in Rajasthan 70% of the total produce from degraded land plantations is to be distributed for free to the nearest panchayat body (village or block level) and the remainder sold at a concessional rate. In Gujarat, 25% of the produce is free to surrounding villagers, 10% is sold at a very low concessional rate. The rest sold by auction in the local market at a concessional price to supply both local and more distant rural and urban needs.

6.09 So far, no harvesting has taken place under the project. Any evaluation of expected benefits must therefore depend upon information gathered in Uttar Pradesh and Gujarat about the harvesting carried out in earlier plantations and upon the expected output of plantations established under the project, given the actual mix of species and current management strategies.

6.10 At the time of the project design, it was anticipated that, in general, short-rotation pole species would be sold mainly to the commercial market to generate cash income for the panchayats and the Forest Department, rather than supplying substantial subsistence benefits to local villagers. Models for all types of public lands were designed therefore to maximize the production of coppicing fuel species, multi-purpose fuel/fodder species, and fruit-bearing multi-purpose trees and shrubs. Grass was a major expected benefit in Gujarat, H.P. and Rajasthan, where villagers are interested in cutting fodder.

6.11 The expected returns varied, depending on the percentage of relatively fertile lands available for community and FD planting. In arid areas, Prosopis spp. make up a large portion of the plantations, and are intended to be lopped regularly for fuel and fodder to maximize intermediate yields.

6.12 Overall, the project models break down into two categories for both community plantations and public lands: 1) a model for dry and degraded sites producing almost exclusively fuelwood, from such species as Prosopis juliflora and Acacia and 2) a model for more-fertile land which produces a variety of forest products, including small timber, fuel, tree fodder, fruits and pods, and grasses and herbs.

6.13 During implementation, the models have broadly followed these two categories. In all four States, however, the management of these plantations has been more timber-oriented than anticipated. The result is that intermediate yields to local villagers are low. Planning for the maximizing of fodder and fruit production has been inadequate right up until the final harvest of trees.

6.14 Community management has not materialized for village woodlots, with the result that panchayat leaders rely upon the Forest Department for technical advice regarding thinning and final harvesting. FD staff have tried to include a range of locally-desired species in areas where soils are comparatively better, but have not instituted management systems that make best use of these species' potential.

6.15 Management is not tied to locally-compatible harvesting systems, which are based on traditional patterns of resource allocation. Strips include Dalbergia sissoo in Rajasthan, a popular fodder as well as timber, but spacing has been too close to maximize both intermediate fodder yield and long-term timber growth. In the absence of community management, therefore, both common and public land plantations are generating similar kinds of benefits and are handled through similar management strategies.

EXPECTED BENEFITS FROM NEW TECHNOLOGIES

6.16 The new technologies proposed by the midterm review are intended to maximize the flow of benefits by focusing more carefully upon the generation of a continuous flow of locally-desired products as well as long-term timber and fuel production. The principles are:

1) wider spacing to maximize fodder and branch production and seed production and fruits when these are part of the model;

2) species choices that are suitable but most socially beneficial - Acacia senegal rather than Acacia nilotica, for example, since the production of pods is more valued, and Acacia leucophlolea, since the fodder has a higher value;

3) intercropping of shrubs, legumes, herbs;

4) sowing of valued grass species for fodder, thatch, and fiber materials (for generating income); and

5) use of coppicing species that require less replanting over a series of harvests.

6.17 Table 1, at the end of this Annex, takes a sample community woodlot in Rajasthan and compares the social benefits estimated in the project documents with field impressions of the likely benefits and estimates of what would accrue under an improved, new model of the sort outlined above.

SOCIAL BENEFITS AND EQUITY OF DISTRIBUTION

6.18 The increased benefits would result from a number of qualities of the new models:

1) Wider spacing will permit continued grass production as the trees reach maturity.

2) Intercropping of fodder grasses and legumes between rows and the management of multi-purpose trees will increase fodder production and bring greater intermediate yields.

3) Wider spacing used for all trees in the plantation will raise the yield of fruits and pods.

4) With the improved community management, longer rotation species can be maintained for a longer cycle. Dalbergia sissoo is likely to be harvested at year eleven with Acacia species in the existing models, since maintaining the Dalbergia sisoo for a longer period requires more commitment from the community. Under the new technology, it could be retained, along with any coppicing intercropped shrubs, and continue to yield fodder as an intermediate product until year [illegible].

PILOT APPROACHES TO COMMUNITY MANAGEMENT

6.19 While the new technologies can greatly increase the benefits from community woodlots and other public land plantations (even without active community management for sustaining community plantations), the development of a viable set of approaches to community management would make these plantations self-sustaining and even further increase social benefits.

6.20 The midterm review has therefore proposed that the four States undertake a pilot program in both old and new plantations to test realistic community management options in conjunction with the new technological recommendations. In this pilot program, Forest Department staff would present the community with alternative plantation models. They would also present alternative strategies for viable management and harvesting systems that would maximize intermediate as well as final harvests of the desired products.

6.21 It has been recommended that a workshop be held in each State to discuss and agree upon the contents of such a pilot program, drawing upon technical assistance from USAID and national consultants. In the sections below, an example of one viable approach to community management is presented in detail, along with a list of alternative approaches that could valuably be explored in such a pilot program.

COMMUNITY WOODLOT ESTABLISHMENT: A SAMPLE PROCESS

6.22 Approaches to community management should be tested for both existing and planned community woodlots. For new plantations, the following steps outline a sample approach for both the community and the Forest Department.

Step 1: The Ranger identifies potential areas for woodlot establishment, based on monitoring data and maps available in his Range.

Step 2: The Ranger surveys on the ground the area for possible woodlot establishment and confirms its availability with local panchayat leaders. The Ranger conducts informal surveys at this time in the community regarding the present use and users of this area and regarding the extraction of produce - fuel, fodder, grass, timber, fruits - from this area.

Step 3: The Ranger calls a meeting of the panchayat, including a wide range of villagers, particularly those who reside near the proposed site of the woodlot(s).

Step 4: At the meeting or series of meetings, the Ranger presents the optional area(s) for woodlot establishment and discusses the overall common land use pattern of the community members. He presents alternative plantation models to this group for discussion and alternative strategies for management and financing of the work. It is suggested that a committee be formed for woodlot management. It is agreed that decisions will be made once the panchayat and community members have a chance to discuss the issues further.

Step 5: At a follow-up meeting, the panchayat and community members are asked to make decisions regarding the alternatives presented for plantation models and to make decisions regarding the desired management plan. The management plan will include:

a) Contributions by the FD and the panchayat, which may include a contract or grant to the community to carry out the plantation work under FD guidance.

b) Harvesting strategies, which may include the harvesting of fodder, fuel, grasses, fruits, and intermediate thinnings, as well as plans for the final harvesting of coppicing and non-coppicing species.

c) Composition of the Management Committee and their responsibilities.

d) Decisions regarding future meetings and planned steps of woodlot establishment.

Step 6: At the completion of this meeting, a formal document in the form of meeting minutes should be drawn up, the agreed-upon decisions listed for all aspects of the establishment and management of the woodlot, and signatures obtained from all committee members, villagers present, panchayat representatives, and FD representatives.

Step 7: Copies of this document should be distributed to all committee members, the FD representative, and all panchayat representatives, including the panchayat chairman.

ALTERNATIVE APPROACHES

6.23 In addition to a management plan similar to the one outlined above, the pilot program should systematically test several alternative approaches so that comparative information on their success is easily monitored and evaluated. Some alternative approaches might include:

1) involving NGOs (particularly those with experience in mobilizing rural women) in the process of drawing up plans and providing management extension to the community;

2) experimenting with different sizes and types of community management committees;

3) experimenting with alternative contract or grant arrangements between the FD and the community;

4) comparing different harvesting and protection systems which the communities feel are most effective and managable, given their own traditional group decision-making; and

5) comparing harvesting strategies that require different degrees of community decision-making to implement (e.g., managing different species within a block under different pollarding and thinning prescriptions versus providing periodic open access for desired lopping and collection of fallen material; rotational harvesting versus block harvesting of final produce).

ANNEX 6 TABLE 1 (CONTINUED)

TYPE OF MODEL	EXPECTED BENEFITS TO USER	BENEFITS TO PANCHAYAT	COMMENTS	WITHOUT PROJECT COMPARISON
RECOMMENDED STRATEGY				
Silvipastoral type model New technology for increased environmental impact and continuous supply of benefits. Community woodlot Rainfed 400-600 stems/ha. Contour planting SPECIES: Acacia nilotica Acacia leucopholea or Acacia senegal at wider spacing. Ailanthus excelsa Fruit species (zizyphus) Intercropping of leguminous herbs or castor seeds on contours. Planting of Prosopis juliflora or cineraria as a shrub or fuel and fodder. Sowing of different grass species for higher production.	Regular lopping of Prosopis shrub for fuel and fodder. Annual lopping of Acacia for pods and intermediate lopping for fodder (two more times per year). Grass harvested on regular basis during growing season. Fruit distributed free to villagers. Fallen wood = 1.5 mt. over 11 years.	Fuelwood at 8 mt. at 11 years. Timber = 1 mt. at 11 years. Fruit if this is auctioned rather than distributed free.	Benefits depend upon the extent to which community management is achieved. However, even in the absence of strong community management, model automatically generates greater intermediate yields in the form of lopping of Prosopis as well as Acacia species. Increased environmental benefits through continous ground cover. Higher potential for effective community management.	Poor villagers would be able to greatly increase benefits from area since management maximizes grass production under wider spacing and and regular lopping of trees for pods, fodder, and fuel Because there is wider spacing, no closed canopy will result, and grass will continue to be produced even after trees begin to mature Environmental benefits are greater, so that the area will improve in quality and maintain its fertility

ANNEX 6 TABLE 1: A COMPARISON OF BENEFITS FROM A WOODLOT IN RAJASTHAN OVER A THIRTY YEAR CYCLE

TYPE OF MODEL	EXPECTED BENEFITS TO USER	BENEFITS TO PANCHAYAT	COMMENTS
ORIGINAL DESIGN			
Project Document: Community Woodlot			
Rainfed condition 1600 stems/ha.	Fallen wood = 24 mt. at 11 years harvest Grass = 0.2 mt/year from second year onwards	Fuelwood = 24 mt. at 11 years Small Timber = 3 mt. at 11 years	Villagers would collect fallen wood, seedpods, fruit, grasses all free of cost. Panchayat would harvest wood and sell at concessional rate at 11, 21 and 31 years.(amount same in other years as at year 11, except final harvest includes additional harvest of Dalbergia sissoo).
SPECIES:			
Acacia nilotica Acacia tortilis	Seedpods of Acacia = 5 mt total over 11 years		
Fruit species	Fruits = 0.4 mt at 10 years onwards		Survival estimated at 70% of stems
Dalbergia sissoo	Lops and tops at harvest = 2.4 mt. at 11 years		Under community management villagers would organize periodic cutting of seed pods and fodder from Acacia nilotica

ANNEX 6 TABLE 1 (CONTINUED)

TYPE OF MODEL	EXPECTED BENEFITS TO USER	BENEFITS TO PANCHAYAT	COMMENTS	WITHOUT PROJECT COMPARIS
FIELD IMPRESSIONS OF LIKELY BENEFITS				
Community woodlots Rainfed 1600 stems/ha. SPECIES Acacia nilotica Acacia tortillis Dalbergia sissoo Fruit species	Fallen wood = 1.5 mt. over 11 years Grass = .5 - 1 mt. from second year onwards with decline to .2 mt after 5th year due to closure of tree canopy. Lops at harvest = 2.4 mt.	Fuelwood = 24 mt. at 11 years Small Timber = 9 mt. at 11 years Seedpods auctioned with fodder loppings annually. Fruits auctioned from year 10 onwards.	Without community management, it is likely the poor user will have little input into panchayat decision making. To make distribution easily panchayat likely to auction both seedpods and fruits and use proceeds for panchayat activities. In some States, grass has been auctioned as well or given on 50% free/50% auctioned basis to generate income for the panchayat. Little continuous flow of intermediate products since felling on only 11 year cycle and close spacing reduces grass growth.	Poor villagers would have better grass production due to closure of the area but due to the lack of communi management and the panch need to find easy distribution system, grass would be harvested at specific intervals with more participation in some areas by wealthier villagers in collection. Villagers lose daily access to this resource for grazing cattle and must therefore change livestock management - ma increase pressure on adjacent degraded forest areas to supply deficit Women lose access to com to collect dung for cooking fuel, since cattle no longer graze in this area

PART III: ANNEX 7

TECHNOLOGY AND RESEARCH

Amitabha Ray, Project Officer, NSFP

USAID, New Delhi
A.K. Banerjee, Forestry Specialist
World Bank, New Delhi

NURSERY DEVELOPMENT

7.01 One of the prerequisites for increased production is raising quality seedlings in the departmental and private nurseries. This in turn necessitates the use of genetically superior, good quality seeds. Apart from Rajasthan, where the program of seed certification of commonly used social forestry species has been introduced recently, efforts to collect good quality seeds are either localised in isolated areas or virtually non-existent. The absence of such a specific focus on seed source has led to non-uniform growth of seedlings in most of the plantations visited.

7.02 It is therefore imperative that immediate attention be paid towards better organising the seed collection process through identification of healthy middle aged to mature, vigorously growing trees of reasonably good form (better "phenotypes") in each forest division. Ideally this should be followed by establishment of 'seed stands' or 'seed production areas' with the eventual objective of developing seed orchards (preferably clonal, as it produces seed earlier than the seedling seed orchards) of different species, appropriately dispersed over geographical regions to facilitate production of seeds from genetically superior trees.

7.03 Another issue that deserves attention is the size of the polypot seedlings used for planting in the nurseries. The mission was greatly concerned that in most cases the seedlings were too large for the small size of the polypot enclosing the root. Clearly this inhibits the development of the desired root-shoot ratio. It is necessary that the seedling height be restricted to about 30 cm by reduced watering through shoot topping, or by delaying the start-up operations. Experimentation should also be taken up by pruning tap roots to encourage vigorous growth of fibrous roots, thus increasing chances of survival following transplantation in the field (public forestry). Where a long tap root is required, lateral roots need to be pruned (private forestry).

PLANTATION DEVELOPMENT

7.04 To meet the project objectives of increased (a) production (b) rural income and employment, and (c) environmental benefits, various tree production models have been developed, using different species and spacing, and designed for the divergent biophysical situations found in the different plantation components (agroforestry, community woodlots, etc.).

7.05 Technology is much easier to change than institutions. And since technology can play a critical role in achieving the goals of social forestry programs, the currently practiced models have been reviewed to assess their appropriateness. The major deficiencies from which all such technologies suffer are as follows.

Overstandardised Plantation Models

7.06 Plantation regeneration plans are developed irrespective of specific site characteristics and the desired management objective. The results of such an approach are evident in the poor quality of plantations both in terms of tree form and stand growth. Examples of this lack of planning include as planting of Eucalyptus hybrid (rainfed) on saline/alkaline soil, or closer spacing of the same species (1 x 1 m) even when the objective is to produce commercial pole crops.

7.07 Similarly, prescriptions are more or less uniform (species, spacing) for the afforestation programs on public lands (degraded forest and panchayat). While some consideration is given to matching species with the site, there is virtually nothing in the technology practised to incorporate the needs and aspiration of the local people or to address the environmental concerns of the project.

Inappropriate Management Systems

7.08 The present management systems, particularly for the public land plantations, envision harvesting a tree stand following the attainment of rotation age, without any provision for any intermediate yield from these plantations.

7.09 Consequently, apart from grasses that come up naturally following closure for afforestation, there is no product benefit to the local community for 10-12 years, the average harvesting cycle of commonly growing short rotation social forestry tree crops. Appropriate technology (species, management), capable of providing a continuous flow of benefits to local people between creation and harvesting of plantations, is therefore needed.

7.10 Similarly, suitable agroforestry prescriptions can also meet the various needs of private farmers from the same unit area through increased total production.

Lack of Soil and Moisture Conservation Measures

7.11 In general, soil and moisture conservation measures have been largely neglected in U.P. and H.P., with the consequence that site degradation has either continued at the same rate or even at an accelerated scale in some areas. In Rajasthan and Gujarat, some land treatment is done through soil working (gradoni, box and contour trenches). However, such techniques involve extensive soil working that is fairly expensive, rendering its large scale replication prohibitive. Appropriate cost effective vegetative measures (such as a double story tree/shrub management approach) can stabilise and improve the degrading site. It can also increase the survival of plants and raise the productivity of surviving trees while also providing the forest based sustenance needs of the rural community.

7.12 The technologies being recommended to address these problems involve changing the production priorities of private and public forestry programs. These are described in detail in the main body of this report (Part I).

PRIVATE FORESTRY

Boundary Planting/Agroforestry

7.13 The selection of species should depend on the site, and the spacing on the size of the cultivated plot (closely spaced in larger fields). In general the intent should be to have the least adverse effect on the agriculture crops through crown shade and root competition for water and nutrients (particularly in non-irrigated areas). This can be done through:

1) selecting trees with long taproot and narrow crown; pruning of lateral roots in the nursery producing seedling with long tap root systems (e.g., Dalbergia sissoo, Eucalyptus hybrid and Ulmus laevigata);

2) digging a deep trench between the trees and the crop to prevent lateral root transgression into the field;

3) pruning, debranching, debudding, coppicing, pollarading to reduce shade effect of larger crowned boundary trees; and

4) planting rows in a north-south direction as far as possible to minimize the shade effect.

7.14 In areas where agroforestry (intercropping) is an emerging trend in land use (U.P., H.P.), introducing contour hedgerow (hills) or alleycropping (plains) systems using nitrogen fixing woody perennials should be attempted. The woody perennials selected should have: a) rapid growth rate; b) deep root system; c) abundant foliage; d) good coppicing ability; and e) divergent byproducts.

7.15 While the deeply penetrating roots of the hedgerows facilitate better percolation of water by breaking the hard soil, the organic matter of and between the hedgerows reduces erosion and develops suitable environments for soil improving microorganisms. The introduction of leguminous plants with appropriate strains of Rhizobium can also increase nitrogen fixation in the soil. Using such low inputs, soil management technology for sustained and increased crop yield is particularly appropriate for small and marginal subsistence farmers who cannot afford costly inputs.

7.16 In addition, through appropriate forestry management, these systems also produce abundant fodder, fuelwood, and small timber. These in turn can more than compensate for the loss in crop production.

Block Plantations

7.17 The short rotation tree species commonly raised by farmers are Eucalyptus hybrid, Tectona grandis, Casuarina equisetifolia, Populus deltoides and Dalbergia sissoo. Since the primary objective is to produce poles and small timber for commercial/industrial use, the recommended spacing is generally 3-6 mt. between rows and 1 mt. between trees in the row. This also allows raising economically profitable agriculture/leguminous crops in between the rows. Reduced spacing can be adopted in case the intent is maximum volume production rather than large diameter, clear boled trees.

7.18 Innovative new preparatory soil working approaches should be introduced to replace some of the traditional pit planting methodology. These might include (a) deep ploughing, sub-soiling and sand filling, particularly to reclaim the saline and alkaline soils through improved water filtration and air permeability and (b) "V-ditch" or "gradoni" methods of soil working for sloping terrain to reduce erosion and increase moisture retention.

7.19 The present protective practices involve digging cattle proof trenches (1.20 x 0.90 x 0.60 mt) around the plantations. As this is a cost-intensive method, efforts should be directed towards raising thorny species (Euphorbia, Acacia nilotica). These should be sowed along the plantation boundary at least one year in advance (May/June) of planting. This suggestion is based on the evidence of successful protection through use of Euphorbia spp. in the arid tract of Rajasthan. Such cost effective notional fencing assumes even stronger relevance when it is considered that effective village participation in the design, implementation, and monitoring of any public forestry endeavour is critical to its success.

7.20 While private forestry is primarily geared towards increased commercial production of short rotation tree crops, it also has the potential of addressing some environmental concerns (intercropping, shelterbelts) and social needs (15-20% of the tree as noncommercial twigs, crops/tops for domestic fuelwood consumption).

PUBLIC FORESTRY

7.21 As in the case of private forestry, the technology is rather standardised. Besides marginal changes in the choice of species appropriate for special areas (saline/alkaline, arid, alluvial), the methods of soil working, spacing and species mix and management are virtually the same. To attain the primary objectives of addressing the environmental and social concerns of the project, the recommended technology for any given site should take into account the site condition (including the degree of erosion and degradation) and local needs.

7.22 To assess the extent of degradation, it is necessary to develop a system of site suitability classifications, based on soil type, topography and degree of erosion. This in turn would suggest the intensity of soil and moisture conservation measures required at a given area, not only to prevent further site degradation, but also to improve site quality in the future through sustained management practices. In general, economically useful local shrubs and herbs, preferably having coppicing capability, should be sown/planted along the contour (particularly in the hilly terrain). Such shrub/herb rows would provide a continuous vegetative barrier as well as preventing sheet erosion through soil retention and increased moisture conservation.

7.23 Although fodder and fuel can be harvested through coppicing this crop, it is imperative that continuous cover be maintained by avoiding the uprooting of plants. In between such shrub/herb rows, suitable tree species should be planted primarily to meet the village requirements of fuelwood and fodder.

7.24 The species of trees and shrubs planted should be based upon site needs and community choices. A village level micro-planning exercise is necessary to assess different local needs of individuals or the various village groups. As the spirations of various sections of the community may be different, the technology has to be adequately innovative and flexible to accommodate divergent requirements at a given site. It is important to understand that at times, technology may have to be subordinated to the local needs (e.g., replacing the best site specific technology with a relatively less suitable one) in order to develop a sense of participation in the decision making. This, in turn, would contribute towards the attainment of one of the project purposes.

7.25 To insure a continuous flow of benefits to the villagers through intermediate yields, a comprehensive management system must be developed prior to plantation establishment. Such a plan would outline the operations involved in each year, the expected outputs from such intermediate harvests and the specific guidelines for benefit distribution. Some of the operations in the management package would include: (a) grass cutting; (b) seed/pod collecting; c) shrub coppicing; (d) tree pollarading/lopping; and (e) tree thinning.

7.26 More emphasis should be given to introducing tree and shrub species that produce a variety of minor forest products (dye, tanin, fruit, vegetables, 'biri' leaves and the like) that are of economic value. This is particularly true for the degraded forest areas.

7.27 The project areas in the four States have been classified by broad site types. Appropriate technologies have been suggested for possible needs against each of these sites. The attached tables provide the outline of such an approach, both for private forestry (Table 1) and public forestry (Table 2). It is, however, necessary that each State develop technical manuals following the identification of detailed biophysical conditions and village needs at the micro level. These manuals could provide technologies for possible need/site combinations and also be used for all social forestry plantation operations in the future.

ANNEX 7: TABLE 1

APPROPRIATE TECHNOLOGIES FOR PRIVATE FORESTRY

(By broad site type)

Broad Site Type	Region Covered	Assessed Needs	Species Choices
1. Moist upper hills (1000mt)	H.P.	a. Fuelwood/ Fodder	Robinia pseudocacia
		b. Income generation	Sapindus spp, Poplar
2. Moist lower hills(1000mt)	H.P.	a. Income generation	Eucalyptus hybrid, Acacia catechu, Populus ciliata
		b. Fuelwood/ Fodder	Ulmus laevigata, Robinia pseudoacacia, Bauhinia, Albizia procera, Melia azaderach, Prunus persica P. armeniana
3. Arid lower hills(1000mt)	Hills of Rajasthan & Gujarat	a. Fodder/Fuel Soil & moisture conservation	Leucaena leucocephala Prosopis cineraria, Acacia nilotica
		b. Income generation	Ailanthus excelsa
4. Moist saline & alkaline areas (Plains)	U.P. Raj. & Gujarat	a. Income generation	Terminalia arjuna, Pongamia pinnata, Acacia nilotica
		b. Fuelwood/ Fodder	Prosopis juliflora Azadirachta indica

5. Arid skeletal soil (Plains)	Rajasthan & Gujarat	a. Income generation	Ailanthus excelsa, Acacia nilotica, Zizyphus mauritiana
		b. Fuelwood/ Fodder	Dalbergia sissoo, Prosopis cineraria, Acacia leucophloea
		c. Wind Shelterbelt	Prosopis juliflora
6. Moist alluvium (Plains)	U.P., Gujarat	a. Income generation	Populus deltoides, (Irrigated) Eucalyptus hybrid Dalbergia sissoo

ANNEX 7: TABLE 2

APPROPRIATE TECHNOLOGIES FOR PUBLIC FORESTRY
(By broad site type)

Broad Site Type	Region Covered	Assessed Needs	Species Choices
1. Moist upper hills (1000 mt)	H.P.	Fuelwood/fodder	Robinia pseudocacia Trees: Murraya, Woodfordia, Barberis; Shrubs: Contour hedge planting of shrubs and gradoni for tree planting in between shrub rows.
2. Moist lower hills (1000mt)	H.P.	Income generation/fuelwood/ fodder	Acacia catechu, Dalbergia sissoo, Eucalyptus, contour hedge with Carissa, Rumex and Dodonaea spp.and tree planting in between shrub hedges.
3. Arid lower hills	Hills of Rajasthan & Gujarat	Fuelwood/fodder Soil/moisture conservation	Anogeissuns pendula, Cassia fiamea, Azadirachta indica, Ailantius excelsa, Acacia nilotica, A.tortilis, Prosopis cineraria (trees); Cassia auriculata, Emblica officinalis, Dodonaea viscosa, Capparis aphylla.
4. Moist saline alkaline areas (plains)	U.P.Rajasthan & Gujarat	Fuelwood/fodder site reclamation	Prosopis juliflora,
5. Arid skeletal (plains)	Rajasthan & Gujarat	Fuelwood/fodder/ soil & moisture conservation	Prosopis juliflora Acacia catechu, A. nilotica, Dalbergia sissoo, Albizia procera, Madhuca indica, Azadirachta indica;

		mauritania,	Trees: Holarrhena antidysenterica, Moringa tinctoria, Zizyphus, Pithecolobium dulce.
6. Moist alluvium (plains)	U.P & Gujarat	Fuelwood/fodder small timber	Acacia nilotica, A. catechu, Dalbergia sissoo, Pougaunia pinnata, Albizia procora; Trees: Adathoda vesica, Atriplex numularia, Inga dulcis.

PART III: ANNEX 8

WOMEN'S INVOLVEMENT IN PROJECT ACTIVITIES

Augusta Molnar, Consultant

INTRODUCTION

8.01 Of major concern to social forestry must be the question of the importance of the direct involvement of women in decision-making and as extension staff. Their participation will ensure that (a) women have access to the opportunities generated by project activities; and that (b) the project is accurately addressing local needs in general, since women play a central role in the household use of forest products.

8.02 To date, women's participation has been almost exclusively limited to their employment as laborers in nurseries and plantations. Their degree of involvement varies from State to State - ranging from 20% in Uttar Pradesh to over 60% in Rajasthan in all activities. Other than in Himachal Pradesh, however, which has an admirable record of hiring women and targeting extension information to women, there have been very few efforts to include women in project activities in the other States.

8.03 For the long-term development of sustainable social forestry, the direct involvement of women and the generation of a better database on their roles in forestry is undoubtedly of great importance. The following sections of this paper discuss the current constraints on women's participation, followed by a long term strategy for increasing women's involvement.

EMPLOYMENT

8.04 Women are being employed informally in forestry activities, helping protect private plantations, providing labor in kisan nurseries (formally contracted with men), and working in FD nurseries and plantations. They have acquired a large body of knowledge about forestry through this employment. It may be of much more economic value, therefore, to involve these women more directly in taking seedlings, in running kisan nurseries, and in participating in community decision-making about woodlot/RDF planning models. Further, the experience in India wth use of female motivators is that while their recruitment raises serious side-issues for their administration and supervision, they unquestionably have a positive, noteworthy impact on the extent to which forestry extension messages reach women.

8.05 Apart from their participation as laborers, however, there has been considerable direct involvement of women in project activities in only one of the four States, Himachal Pradesh. There, the extensive network of women's groups, Mahila Mandals, has become actively involved in project activities, planting seedlings on private land and managing some woodlots on community lands.

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EXTENSION AND TRAINING

8.06 The activism of the women's groups in Himachal Pradesh has had a positive effect on overall project momentum, as the women form a positive lobby for tree planting activities in their communities. The Forest Department has also hired 25 Lady Forest Guards (LGs) to act as extension motivators. They will receive training as a group at the local training institute in the near future. The LGs appear to be very effective in extending information and recommendations to women, and H.P. is planning to substantially increase their number by filling 50% of all vacancies and new recruitment with women.

8.07 In two of the remaining three States, specific extension to women has been only through the recruitment of one or two female DFOs, Extension. It is difficult to evaluate the usefulness of these women officers, since their posting is very recent. While the Gujarat FD had intended to recruit a large proportion of female Forest Guards for the new social forestry incremental staff, the low state budget allocation for the project has not allowed for any new field staff recruitment, either male or female.

8.08 Part of the problem of inadequate attention to women stems from the more general problem of inadequate support for extension and training, with the result that no community group is sufficiently involved in planning and management of the plantations. Women's needs will automatically be better met if the extension support substantially improves its coverage as a whole.

8.09 In all four States, however, male foresters simply do not interact with women or receive adequate information about women's forestry needs. In fact, Forest Departments in the non-Himalayan regions are not really interested in nor aware of the need to centrally involve women and few States have existing networks of women's organizations to link up with extension activities of the FD. This situation is unlikely to change, given the social dynamics of gender in India and the FD.

8.10 The incorporation of women as extension staff is difficult: Women extension agents are harder for male-oriented FDs to supervise. The recruitment of female motivators raises serious issues of financial sustainability to the FD. The supervision of and mobility by these women are issues as is the potential politicizing of these employees by union movements. Morecover, the use of more senior female professional officers as extension supervisors rather than as line officers may lead the Indian forest service to forego a more important opportunity to introduce women foresters into the mainstream of the State FDs.

COMMUNITY PLANTATIONS

8.11 Incorporating women's interests in community plantation planning and management has important implications, because there is frequently a trade-off between products preferred by women and men. While it is a misconception that women do not value trees as cash crops and exclusively want subsistence forest products (unlike men who have more interested in

income generation), it is true that women are likely to lobby for the management of lower-cost plantations models with more use of shrubs, grasses, and legumes which provide greater intermediate yields of fuel, fodder, and minor forest products (MFP) and have a more positive environmental impact in wastelands.

8.12 For example, women may wish to manage Acacia for pods rather than leaf fodder and would therefore pick an appropriate harvesting cycle for this, or women may be willing to risk damage to the plantation by organizing regular lopping of trees, and thereby realize a sustained yield, while men may opt to cut the trees only at final harvest, lest the lopping get out of control in the absence of sufficient community sanctions.

8.13 Accounting for women's forest demands is a necessary part of overall planning. It is impossible for the FDs to devise a realistic strategy to achieve a situation whereby forest resources in non-Forest Department lands are complementary to those on FD land and can relieve pressure on newly-established RDF plantations unless women -- who put greatest pressure on forest lands -- are consulted when devising this strategy.

RECOMMENDATIONS

8.14 A viable strategy for the remainder of the project cycle must incorporate the above concerns, but be realistic in light of the almost complete lack of experience with involving women in three of the four States. The strategy of active involvement by Mahila Mandals in Himachal Pradesh is a good one and should be expanded. It would be valuable to hold a workshop to enable the FDs of the four States to exchange views regarding strategies and benefits of recruiting female guards and motivators.

8.15 Of fundamental importance is the incorporation of information about the roles of women in forestry into the training courses for forestry staff on a broader scale and at a greater depth than is currently done. Preparation of such curricula could be done by women foresters in the State FDs who are already working at the DFO level. Outside assistance, either from USAID or relevant women professionals from the respective State, could supplement this. The M&E units should also carry out a special study on the impact of the project on women and on women's perceptions of what is lacking in the present planning system and technical models (as outlined in the Guide). Such studies could provide important materials for the training curricula.

8.16 An important long term strategy is the recruitment of women into the FDs at different levels. In the short term, motivators can provide a cost effective function of disseminating information to women about project activities, even if the FDs choose not to maintain such a cadre of staff over the long term. Annex 8: Figure 1 outlines such a strategy.

ANNEX 8: FIGURE 1

RECOMMENDED STRATEGIES FOR WOMEN'S INVOLVEMENT

MINIMUM:

The minimal activities needed to involve women to ensure that project activities benefit women and meet overall equity objectives.

STRATEGY OF INVOLVEMENT	COMMENTS	WHERE PLANNED
1. Incorporate curricula on H.P. women's roles in forestry into staff training based on a concrete study of women in the project area.	Improves male field staff understanding of the roles of women in forestry and the concerns in planning and extension efforts.	
2. Conduct or contract a H.P. study on women's roles in the project area, with attention to their access and interest in species and the products generated.	Allows for involvement of women's concerns into planning, so that models and management approaches reflect their preferential needs of end products as well as limiting comstraints or particular skills.	
3. Organize women-farmers' camps as well as men's camps, perhaps with help from women's groups or NGOs.	Provides a forum for directly reaching women as a group.	All States

MEDIUM:

Increases women's involvement to better target activities to women and to increase chances of achieving project objectives.

STRATEGY OF INVOLVEMENT	COMMENTS	WHERE PLANNED
1. Encourage women nursery laborers to start private nurseries.	Requires special extension efforts by rangers/foresters to recruit these women as nursery operators and help them get access to land/water through leasing, etc., if necessary. Utilizes already trained staff with high motivation as primary nursery operators rather than simply indirectly involving untrained wives of male operators.	Gujarat, Rajasthan
2. Link NGOs with experience in working with rural women States with seedling distribution and community management pilot approaches.	Expands department resources through existing organizations in the State. SFDs need to monitor these activities to ensure programs are effective.	All after Workshops

INTENSIVE:

Has the best chance not only to ensure that women benefit from the project, but also makes sure that objectives are met and that outputs can be expanded beyond initial expectations.

STRATEGY OF INVOLVEMENT	COMMENTS	WHERE PLANNED
1. Substantial percentage of female extension staff. (a) DFOs - female (b) Senior extension women with social science backgrounds, agronomy, etc. (c) Both - a mixture of (a) and (b) as available. This level of staff has transportation facilities and an educational level to maximize seniority.	Leads to central concern for women's issues at higher levels. Costly if new staff not planned to be hired. Provides links between FDs, NGOs and gov't. departments concerned with women to disseminate information about programs.	H.P. H.P. (Guards)
2. Hire female rangers, foresters, and guards.	Provides more chance that extension messages will reach women. Encourages women's involvement in decision making about management of plantations, species demands for private and community planting models.	
3. Hire female motivators.	Generates higher awareness among women even if only implemented over short term. May raise problem of sustainability. Transportation and supervision for women may be problems due to social constraints.	

PART III: ANNEX 9

WORK PLAN: MIDTERM REVIEW METHODOLOGY

J. Gabriel Campbell, Team Leader, NSFP Midterm Review
Social Forestry Advisor, USAID, New Delhi

INTRODUCTION

9.01 The design and organization of the National Social Forestry Midterm Review was based on two major considerations:

a) The NSFP is a complex project involving four States, the Government of India and two international donors, the World Bank (IDA) and the U. S. Agency for International Development (USAID); and

b) Following a decade of large scale social forestry activity in India, the midterm review of this project -- the largest in India -- provided a timely opportunity to review the overall strategy taken by this program.

9.02 The large number of actors involved, the complexity and size of the project and the importance of an overall review of social forestry at this time demanded the development of a review methodology responsive to these requirements and acceptable to all parties.

9.03 For these reasons, it was decided that the methodology contained in the Scope of Work developed by USAID, in consultation with the World Bank and GOI, would be finalized through a team planning process in which each of the key disciplines and institutions would participate. This process was instituted at the outset of the review through team planning meetings held in New Delhi with the team members selected by USAID, World Bank and GOI to conduct the review. It continued throughout each of the review stages. In this process, the Scope of Work was considerably modified, based on team consensus.

PURPOSES

9.04 During the initial team planning meetings, the purposes of the midterm review evaluation of the National Social Forestry Project were identified as follows:

1) To assess the value of the project, the degree to which project objectives were being met and the relevance of these objectives in the present context;

2) To identify and introduce improvements in the project;

3) To chart a future strategy for social forestry in India; and

4) To provide a basis for more informed public dialogue on the accomplishments and future of social forestry.

9.05 As these purposes indicate, the team decided that the review would go beyond the scope of most project evaluations to examine not only accomplishments within the terms of the original project, but the relevance of these project objectives themselves. This broader purpose was embraced in response to mounting public debate on environmental and social land use issues, changing donor priorities, and the realization that after a decade of donor supported social forestry, the time was ripe for a more thorough review.

METHODOLOGY

9.06 In the initial planning meetings, the team developed a matrix of project activities and issues and a methodology for reviewing these in relationship to overall project objectives. Project activities were divided into direct field activities, supporting activities, special issues and policy considerations which affected the project environment. In addition, the need for obtaining detailed data on financial and physical progress was identified as cross-cutting each of the project components. The resulting planning matrix is presented below (Figure 1).

9.07 Within each square of the matrix, the data required and the issues to be addressed were identified by disciplinary experts and discussed by the team as a whole. Through this process, each team member became acquainted with the issues involved in different technical aspects of the project and with the differing perspectives of team members. In addition, representatives of USAID, World Bank, and GOI management presented their particular concerns to enable the team to orient their investigations towards pressing management issues. The result was a general consensus on the strategy to be used in undertaking the review and a mutual understanding of the review's priorities.

9.08 The next step was to allocate team member responsibilities and develop specific plans for the review process, including secondary and field data collection, discussions with State Governments and fellow team members, report drafting and review, and wrap-up meetings and report finalization. As is evident from the schedule presented below, the process was complicated by the need for close collaboration between USAID, World Bank and GOI as well as with each of the States involved.

9.09 The field methodology used incorporated various elements of rapid rural appraisal. The team was divided into two groups which visited two States each in order to be able to spend more time in each State. A few members visited each of the four States in order to collect specialized data on legal and financial aspects of the project. Extensive site visits were organized throughout the States in order to collect first hand observational and interview data. Although most visits were organized by the State officials, attempts were made throughout the field investigation to select random sites and conduct random interviews in order to reduce possible bias in site selection.

9.10 In addition, extensive interviews were conducted with forestry personnel at various levels, both in groups and individually. These were supplemented by discussions and interviews with government officials in related departments as well as by a thorough review of existing secondary materials. At the end of each day, team discussions were held to review results obtained by various team members and to identify priority areas for the next day's investigation.

9.11 A preliminary wrap-up meeting was held in each State following internal team deliberations; notes on each State were prepared by each team member. The two teams met together after having visited one State each, to share their findings and incorporate them into the remaining field visits.

9.12 At the completion of the field visits, a series of team meetings was held to discuss the results of each State visit and to develop an overall approach to the project. Based on this approach, specific project changes for each State were jointly agreed upon and a preliminary draft of each of the State Aide Memoires prepared. Each team member also prepared drafts of their Technical Annexes for review by specified other members. USAID conducted a preliminary internal review of the findings in order to incorporate management concerns at an early stage.

9.13 These drafts of the State Aide Memoires (Part II) and the Technical Annexes (Part III) were then taken to Washington in order to prepare a final draft in collaboration with the World Bank. Based on these drafts, the overall review report (Part I) was prepared.

9.14 Prior to the final circulation of the various review reports, detailed meetings were held with each of the State project officials in New Delhi to reach agreement on the specific project changes recommended and then to reconcile them with State budgets. In addition, USAID conducted a Project Implementation Review Meeting in order to obtain Mission responses and clearance for circulation of the final draft report.

9.15 Following circulation of the final draft to each of the States and the Government of India, a wrap-up meeting was held in New Delhi by the Ministry of Forest and Environment. Following detailed discussions of the major changes recommended and the policy issues identified, this meeting endorsed the overall report with some small modifications which have been incorporated into the text. This was followed by a Mission Review Committee meeting held in USAID to approve the recommended changes and to identify follow-up measures needed to support the Action Plans developed in the evaluation.

ANNEX 9: FIGURE 1

PLANNING MATRIX

COMPONENTS	PROJECT GOALS	
FIELD ACTIVITIES ENVIRONMENT	PRODUCTION	INCOMES & EQUITY
-Farm Forestry and Subsidized Farm Forestry -Tree Tenure -Community Woodlots -Govt. Wastelands Plantations (RDF) -Stoves & Crematoria	In addition to individual technical responsibilities -- representing horizontal lines on this matrix -- each team member was assigned to a group with particular responsibility for assessing one of the three sets of project goals and achievements.	
SUPPORTING ACTIVITIES AND CONSIDERATIONS -Technology -Research -Training -Planning -Extension -Monitoring & Evaluation -Organization & Management -Central Support Unit		
SPECIAL ISSUES -Legislation and Tenure -Marketing -Subsidies/Incentives -Women's Issues -Non-Governmental Organizations -Distribution of Benefits -Coordination with Other Govt. Programs (NREP, RLEGP)		

9.16 REVIEW TEAM MEMBERS:

Dr. J. Gabriel Campbell, Team Leader for USAID
Responsible for overall coordination and preparation of Main Report and State Aide Memoires;
Social Forestry Advisor, Policy and Planning Research, USAID/New Delhi.

Dr. Ben van de Poll, Team Leader for IBRD
Responsible for overall coordination and preparation of Main Report
Senior Agriculturalist, World Bank, Washington D.C.

(In Alphabetical Order)

Dr. Dorothy Anderson
Responsible for Monitoring and Evaluation and Planning;
Social Forestry Advisor, Monitoring and Evaluation, USAID/New Delhi.

Dr. Ajit K. Bannerjee
Responsible for Technology, Research, and Extension;
Senior Forester, World Bank, Washington D.C.

Dr. John Grant
Responsible for USAID evaluation guidance, Non-Governmental Organizations, and Organization and Management;
Evaluation Officer, USAID/New Delhi.

Dr. Marea Hatziolos
Part time team member for Environment
Environment Consultant, USAID/New Delhi.

Ms. Sharon Holt
Responsible for Women and Non-Governmental Organizations;
Evaluation Office, USAID/New Delhi

Mr. B.P. Maleta
Representing National Wastelands Development Board;
Deputy Inspector General of Forests, Ministry of Forests and Environment, NWDB, Government of India, New Delhi.

Mr. D.A. Marballi
Responsible for Financial and Physical Achievements and Costs;
Forestry Officer, USAID/New Delhi

Dr. Augusta Molnar
Responsible for Women, Benefits Distribution and Social Issues, and preparation of final reports;
Consultant Sociologist.

Dr. Wayne Myers
Responsible for Environment;
JCC Forestry Advisor, USAID/New Delhi and Co-Director, Office for Remote Sensing of Earth Resources, Pennsylvania State University.

Mr. Amitabha Ray
Responsible for Technology, Training and Research as well as preparation of State Aide Memoires and final report;
National Social Forestry Project Officer, USAID/New Delhi.

Mr. Raymond Rowe
Advisor on Technology, Research and Training;
Senior Forestry Advisor, World Bank, Washington.

Dr. B. Sen
Responsible for Economic Analysis
Agricultural Economist, USAID/New Delhi.

Mr. Anand Singh
Representing National Wastelands Development Board;
Assistant Commissioner (Forestry), Ministry of Forests and Environment, NWDB, Government of India, New Delhi.

Dr. Chhatrapati Singh
Responsible for Legislative Issues;
Consultant Legal Expert, Indian Institute of Law, New Delhi.

Ms. Barbara L. Tobin
Editor, National Social Forestry Project Midterm Review.
USAID, New Delhi.

SCHEDULE

Dec. 1987 - Jan. 1988	Preparation of Scope of Work, Team Identification, and Schedule Arrangements
Jan. 28 - Feb. 2	Team Planning Meetings in New Delhi
Feb. 3 - 13	Field visits to U.P. and Gujarat
Feb. 15	Team Review Meeting, New Delhi
Feb. 16 - Feb. 27	Field visits to H.P. and Rajasthan
Feb. 29 - Mar. 31	Team Findings Meeting and Initial Drafts
Mar. 29	Presentation of Findings to USAID Mission
Apr. 4 - May 6	Preparation of Main Report (Part I) and Aide Memoires (Part II) in Washington
May 16 - June 6	Meetings with Each State and Finalization of Aide Memoires (Part II) and Technical Annexes (Part III)
June 7	USAID Project Implementation Review Meeting
June 13	Distribution of Final Report to GOI and States
July 6	Wrap-Up Meeting with GOI and States Held by MOFE in New Delhi
August 17	USAID Mission Review Committee Meeting and Distribution of Final Report
Sept. 1988 onwards	Follow-up to agreed Action Plans